

# **Golden Valley Ranch Standard Drawings**

## **I. Road Sections**

- A. Typical Local Street
- B. Typical Collector Street
- C. Typical Entry Street
- D. Typical Minor Arterial Street Fronting Golf Course
- E. Typical Minor Arterial Street
- F. Typical Minor Arterial Street with Median
- G. Typical Loop Road #1 Street
- H. Typical Loop Road #2 Street
- I. Major Arterial
  - 1. Typical Major Arterial Street
  - 2. Typical Intermediate Major Arterial Street
- J. Typical 100' Right-of-Way Half Street
- K. Typical Alley Street

## **II. Wall and Fence Details**

- A. Wrought Iron Fence
- B. Easement Detail/Removable Bollards
- C. CMU Block Retaining Wall Details
  - 1. Retaining/Screen Wall Detail
  - 2. Drain/Construction Joint Detail
- D. Concrete Retaining Walls

- 1 Types 1A & 1B Cantilever Concrete Retaining
- 2 Type 2 Cantilever Concrete Retaining Wall
- 3 Cantilever Concrete Retaining Wall Detail No. 1
- 4 Cantilever Concrete Retaining Wall Detail No. 2
- 5 Cantilever Concrete Retaining Wall Detail No. 3

### III. Lot Details

- A. Typical Lot Grading
- B. Typical Lot Setbacks
- C. Rear Yard Sections at Perimeter Street/Boundary
- D. Rear Yard Section with Scarp/at Golf Course
- E. Side Yard Retaining/No Retaining
- F. Side Yard Corner Lots at Collector Retaining/No Retaining
- G. Side Yard Corner Lots Retaining/No Retaining

### IV. Street Lights

- A. Street Light Conduit and Pole Locations
- B. Street Light Standards
- C. Street Light Base Detail
- D. Pull Box Details
- E. Pull Box Locations
- F. Single Meter Service Pedestal
- G. Service Meter Pedestal Setback
- H. Service Pedestal Foundations

### V. Curb and Sidewalk

- A. Sidewalk Details
  1. Expansion/Contraction Joints

2. Driveways Residential/Commercial

B. Curb Cuts for Drainage

C. Sidewalk Ramp Type D

D. Curb

1. Vertical Curb (Type A)/24" Roll Curb (Type C & D)/Ribbon Curb

2. 30" Roll Curb

3. Transition from Vertical Curb (Type A) to Roll Curb

4. Scuppers

VI Valley Gutter

VII. Storm Drain

A. Modified Type "D" Drop Inlet in Sump/on Grade

B. Culvert Headwalls 17" x 13" CMAP to 83" x 57" CMAP

C. Culvert Headwalls 48" CMP to 72" CMP

D. Estimate of Quantities Type 1 Headwall

E. Metal End Sections 12" CMP to 84" CMP and 17" x 13" CMAP to 83" x 57" CMAP

F. RCP End Section 18" RCP to 54" RCP

G. Method of Extending RCB Culverts

H. Culvert Headwalls 42" RCP to 72" RCP

I. Culvert Headwalls 23" x 14" Oval RCP to 60" x 38" Oval RCP

J. Culvert Headwalls 68" x 43" Oval RCP to 91" x 58" Oval RCP

K. Pre-cast Concrete Box Culvert

L. RCB Culverts, General Notes

M. RCB Culverts Type I Headwalls

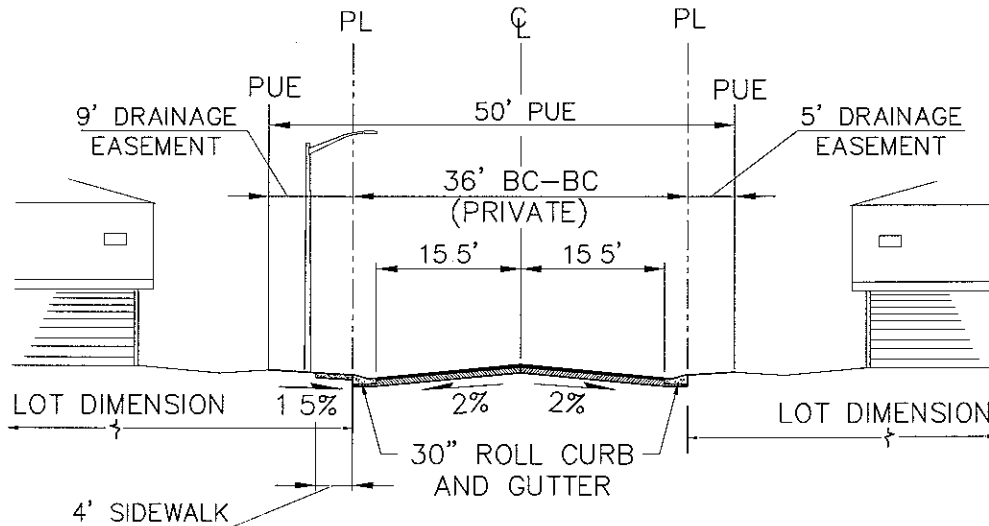
N. RCB Culverts Type II Headwalls (Sheet 1)

O. RCB Culverts Type II Headwalls (Sheet 2)

- P. Single RCB Culverts
- Q. Double RCB Culverts
- R. Additional Cell to be used with Double RCB Culverts to provide for Multiple Cell Culverts
- S. Toe Protection
- T. Conduit Outlet Erosion Protection

## VIII. Utilities

- A. Utility Locations
  - 1. Typical Water and Sanitary Sewer Main Line Section
  - 2. Typical Underground Utility Locations in Residential Street
  - 3. Typical Water and Sanitary Sewer Laterals
  - 4. Typical Fire Hydrant Locations
- B. Pre-cast Concrete Sewer Manhole
- C. Water Service Installation 5/8", 3/4", 1" Meter Sizes Unimproved Area



**TYPICAL LOCAL STREET SECTION**  
(PRIVATE) NOT TO SCALE

NOTE: ALL LANDSCAPING/WALKWAYS FROM PL  
TO PL TO BE MAINTAINED BY MASTER  
HOMEOWNER ASSOCIATION

**RHODES HOMES ARIZONA, LLC**  
**GOLDEN VALLEY RANCH**

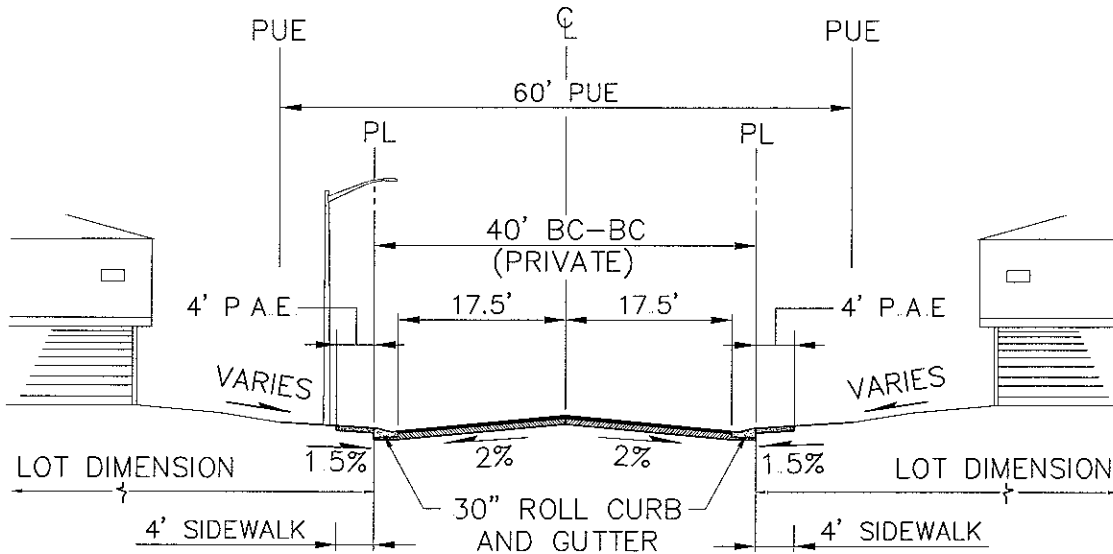


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**FIGURE I-A**

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**TYPICAL COLLECTOR STREET SECTION**  
(PRIVATE) NOT TO SCALE

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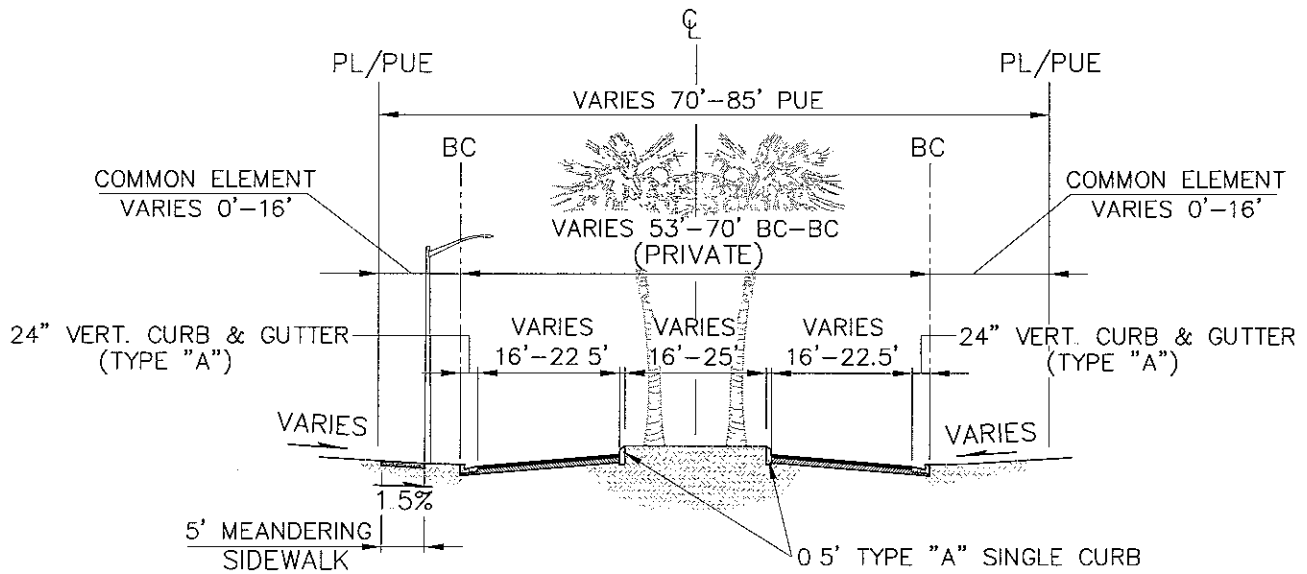


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**FIGURE I-B**

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**TYPICAL ENTRY STREET SECTION**  
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TO PL TO BE MAINTAINED BY MASTER  
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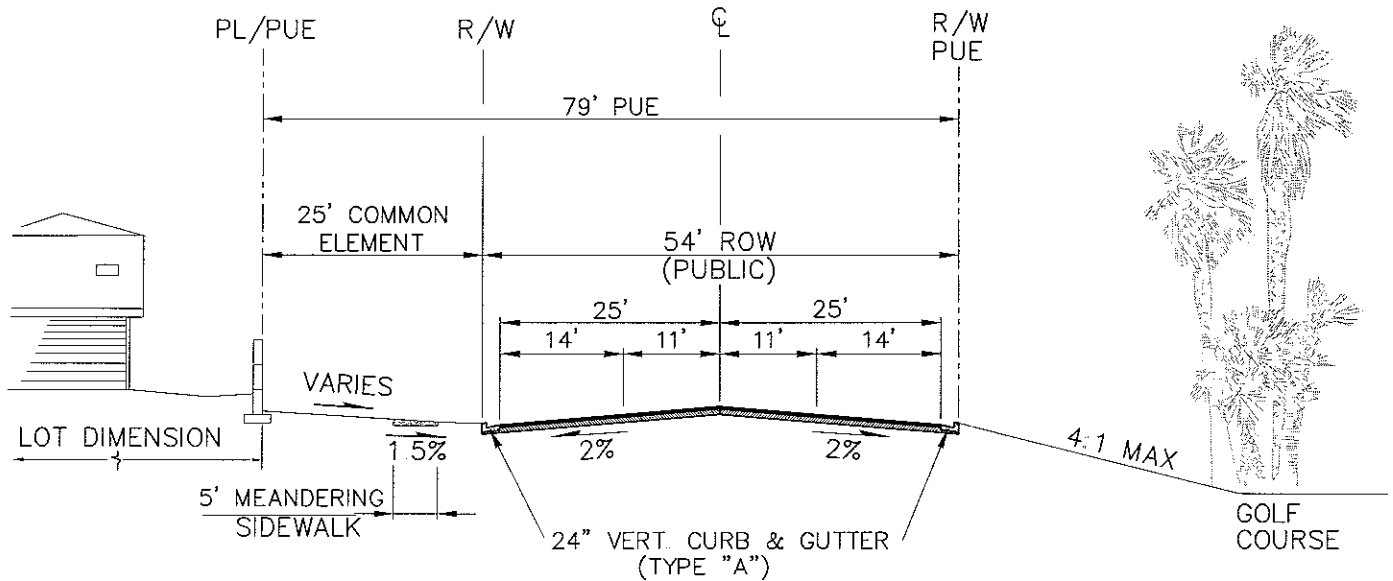


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**FIGURE I-C**

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**TYPICAL MINOR ARTERIAL STREET  
SECTION FRONTING GOLF COURSE**  
(PUBLIC) NOT TO SCALE

NOTE: ALL LANDSCAPING/WALKWAYS FROM PL  
TO PL TO BE MAINTAINED BY MASTER  
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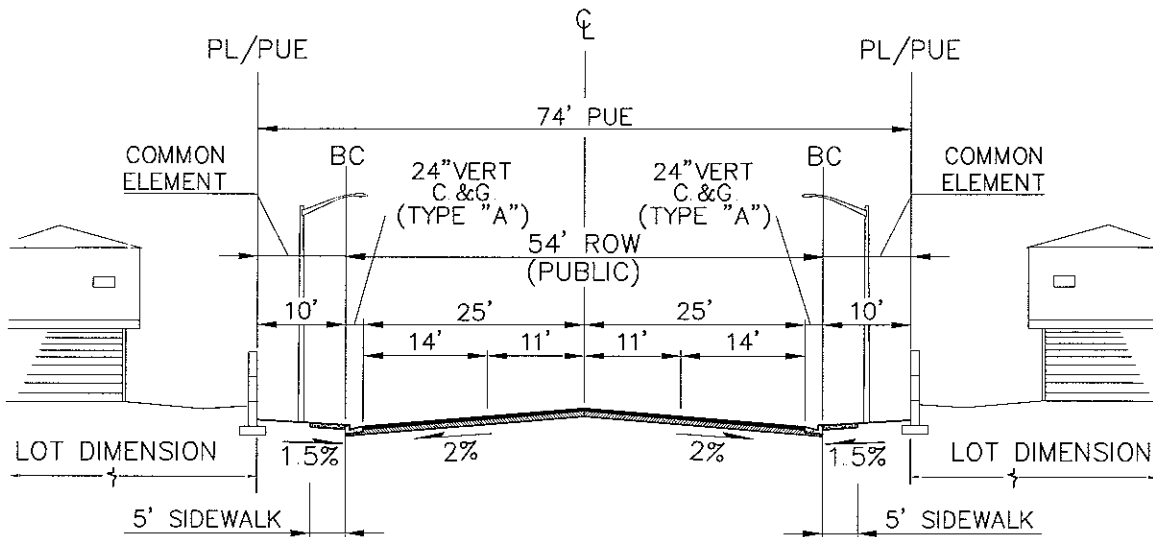
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**FIGURE I-D**

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**TYPICAL MINOR ARTERIAL STREET SECTION**  
(PUBLIC) NOT TO SCALE

NOTE: ALL LANDSCAPING/WALKWAYS FROM PL  
TO PL TO BE MAINTAINED BY MASTER  
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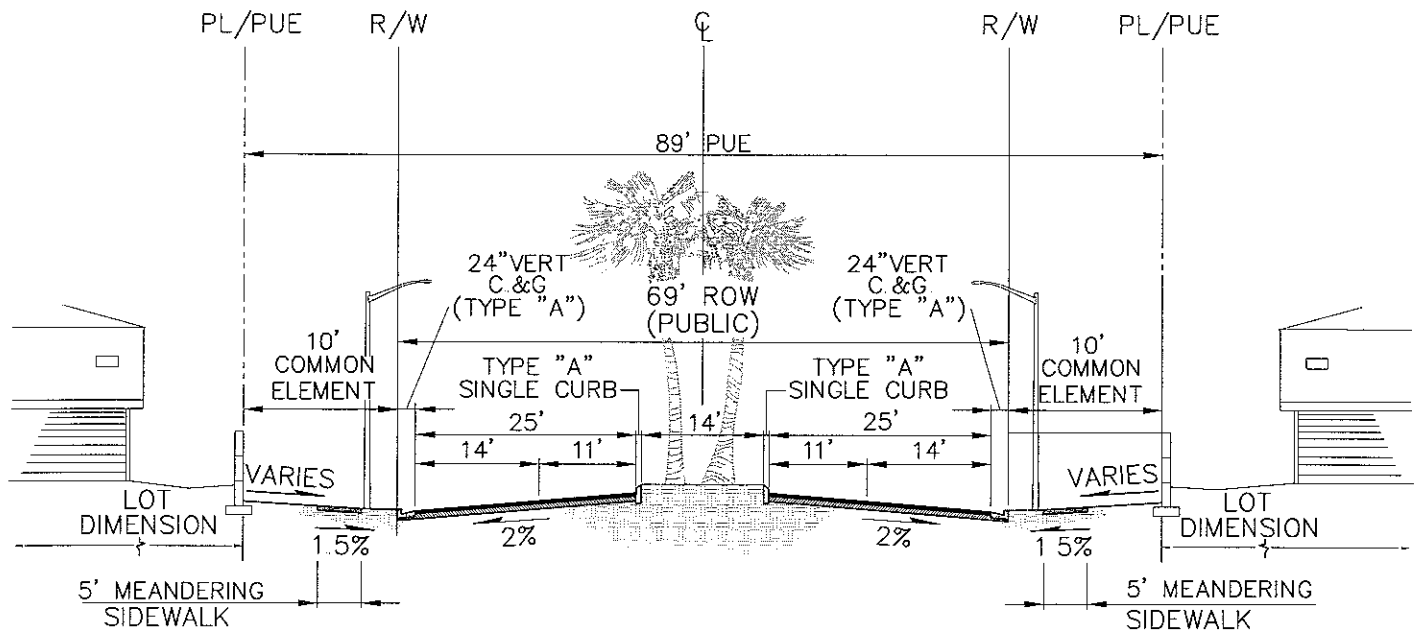


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**FIGURE I-E**

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**TYPICAL MINOR ARTERIAL STREET SECTION  
WITH MEDIAN** (PUBLIC) NOT TO SCALE

NOTE: ALL LANDSCAPING/WALKWAYS FROM PL  
TO PL TO BE MAINTAINED BY MASTER  
HOMEOWNER ASSOCIATION

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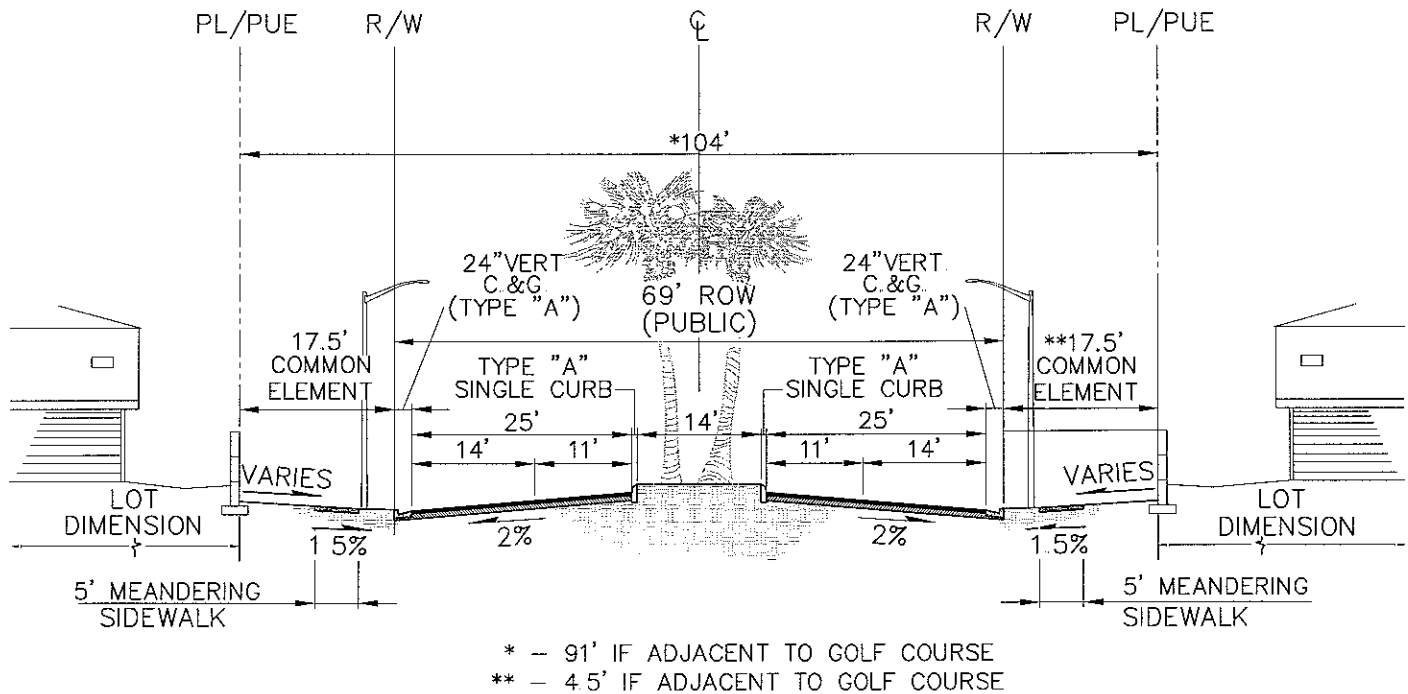


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SCALE: NOT TO SCALE

**FIGURE 1-F**

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**TYPICAL LOOP RD. #1 STREET SECTION**  
 (PUBLIC) NOT TO SCALE

NOTE: ALL LANDSCAPING/WALKWAYS FROM PL  
 TO PL TO BE MAINTAINED BY MASTER  
 HOMEOWNER ASSOCIATION

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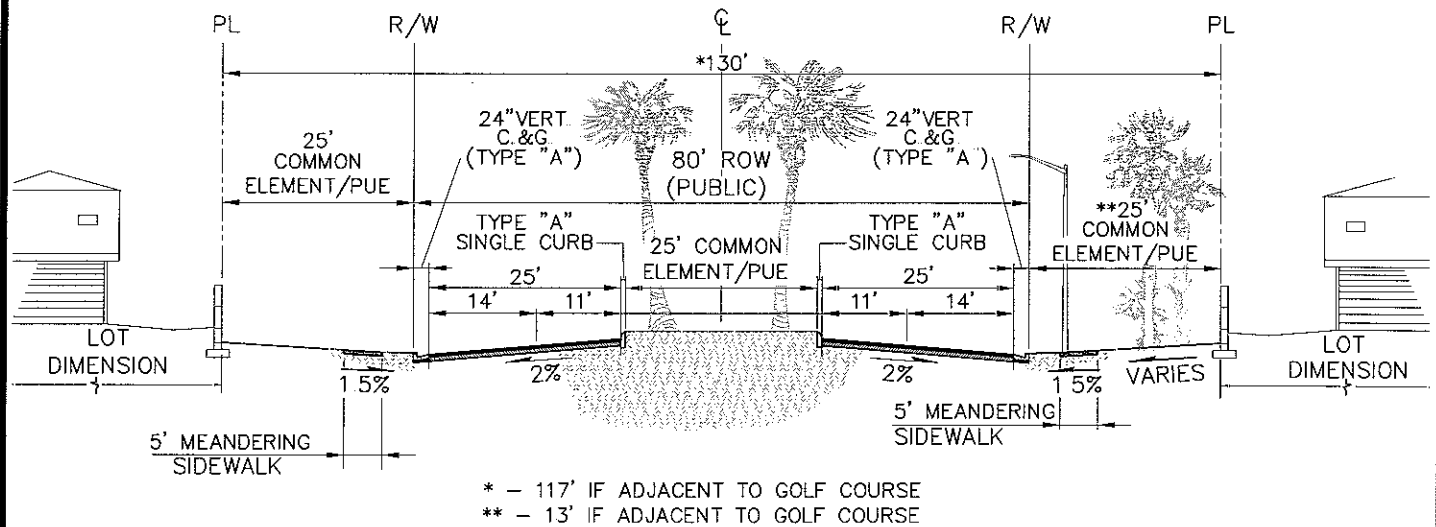


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**FIGURE I-G**

DATE: 20 DEC 2005  
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**TYPICAL LOOP RD. #2 STREET SECTION**  
 (PUBLIC) NOT TO SCALE

NOTE: ALL LANDSCAPING/WALKWAYS FROM PL  
 TO PL TO BE MAINTAINED BY MASTER  
 HOMEOWNER ASSOCIATION

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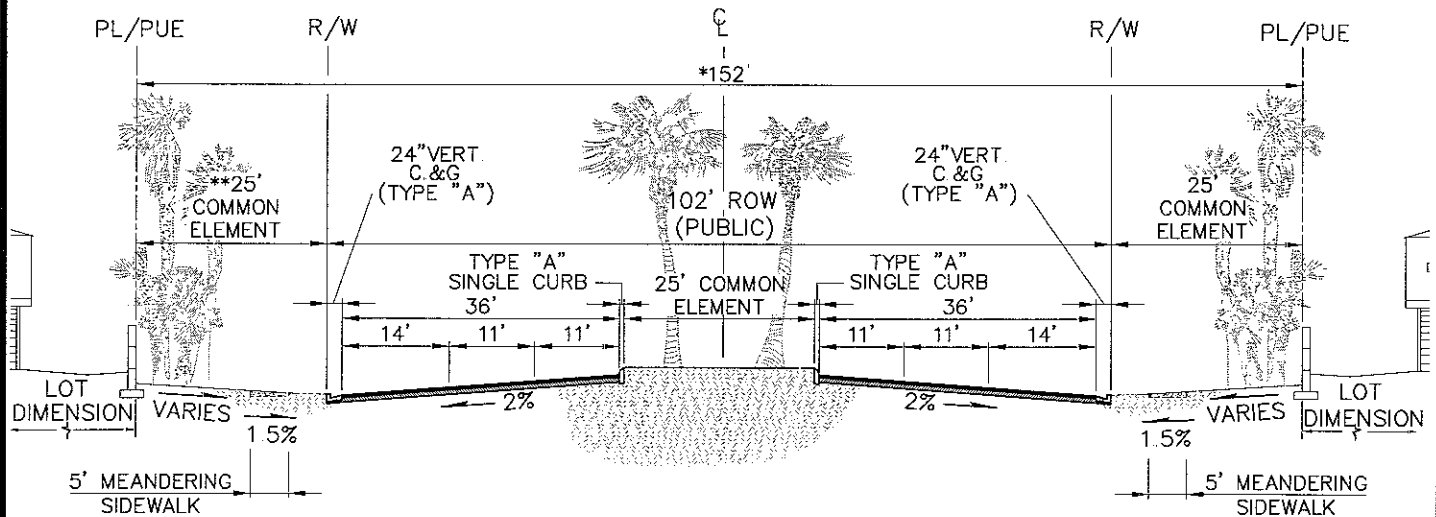


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**FIGURE I-H**

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\* - 139' IN LOCATIONS ADJACENT TO GOLF COURSE  
 \*\* - 12' IN LOCATIONS ADJACENT TO GOLF COURSE

### TYPICAL MAJOR ARTERIAL STREET SECTION

(PUBLIC)

NOT TO SCALE

NORTH OF GOLF COURSE FROM  
 ROUND-A-BOUNT TO SHINARUMP

NOTE: ALL LANDSCAPING/WALKWAYS FROM PL  
 TO PL TO BE MAINTAINED BY MASTER  
 HOMEOWNER ASSOCIATION

## **RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH**

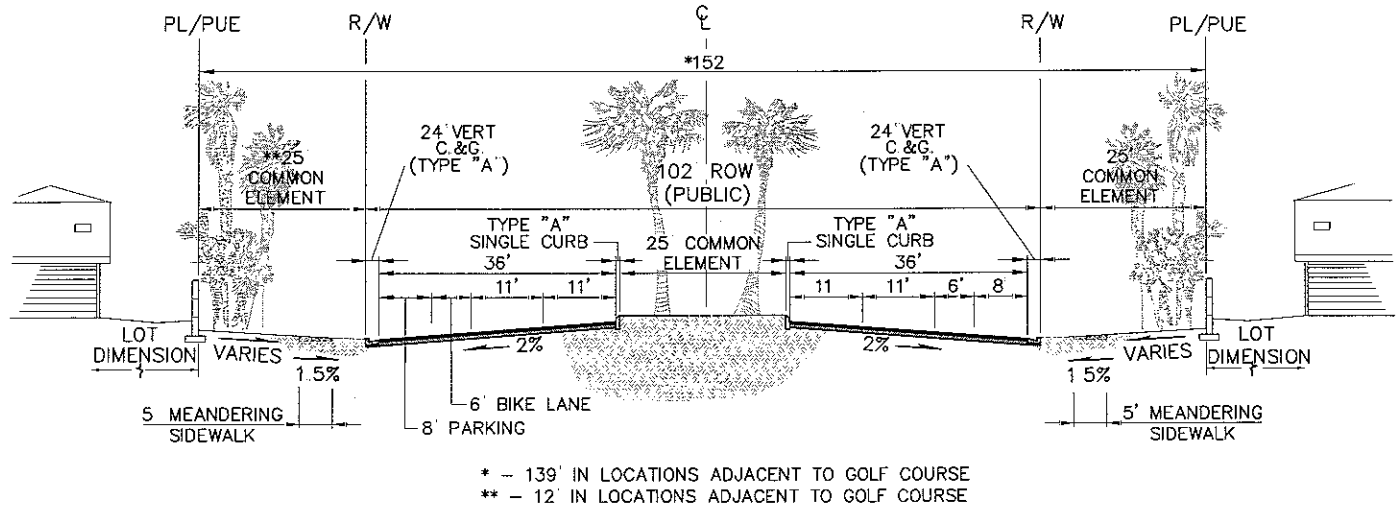


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SCALE: NOT TO SCALE

**FIGURE I-I-1**

DATE: 20 DEC 2005  
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**TYPICAL INTERMEDIATE MAJOR ARTERIAL STREET SECTION**  
 (PUBLIC) NOT TO SCALE

NOTE: ALL LANDSCAPING/WALKWAYS FROM PL TO PL TO BE MAINTAINED BY MASTER HOMEOWNER ASSOCIATION

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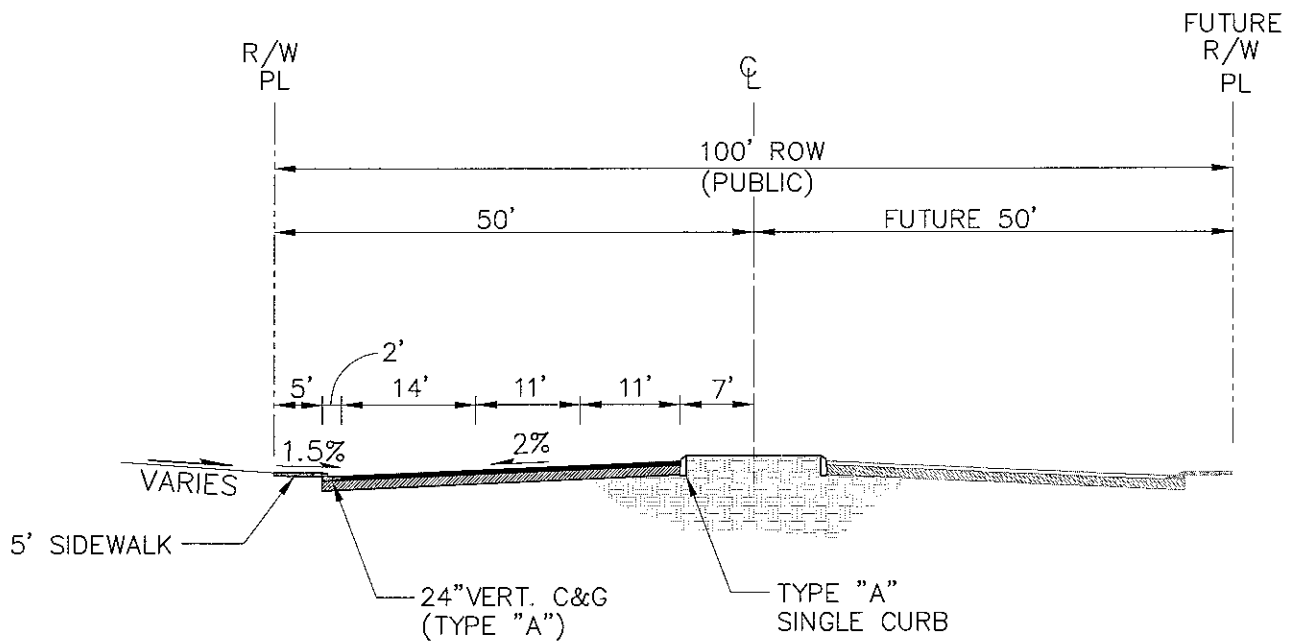


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**FIGURE I-I-2**

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## TYPICAL 100' RIGHT-OF-WAY HALF STREET SECTION

(PUBLIC)

SECTION LINE ROADWAYS

NOT TO SCALE

NOTE: ALL LANDSCAPING/WALKWAYS FROM PL  
TO PL TO BE MAINTAINED BY MASTER  
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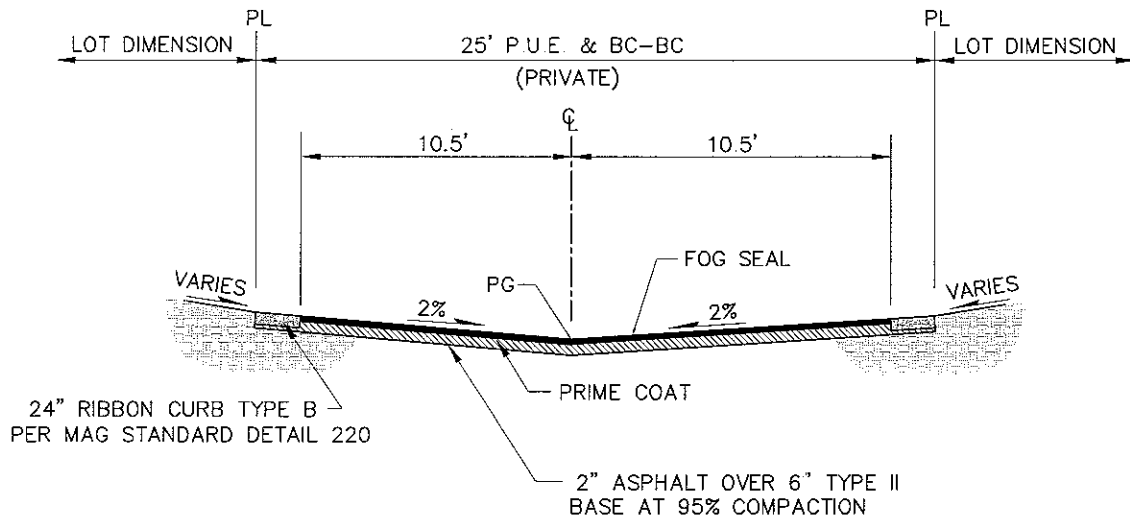


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SCALE: NOT TO SCALE

**FIGURE I-J**

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## TYPICAL ALLEY STREET SECTION

(PRIVATE) NOT TO SCALE

NOTE: ALL LANDSCAPING/WALKWAYS FROM PL  
TO PL TO BE MAINTAINED BY MASTER  
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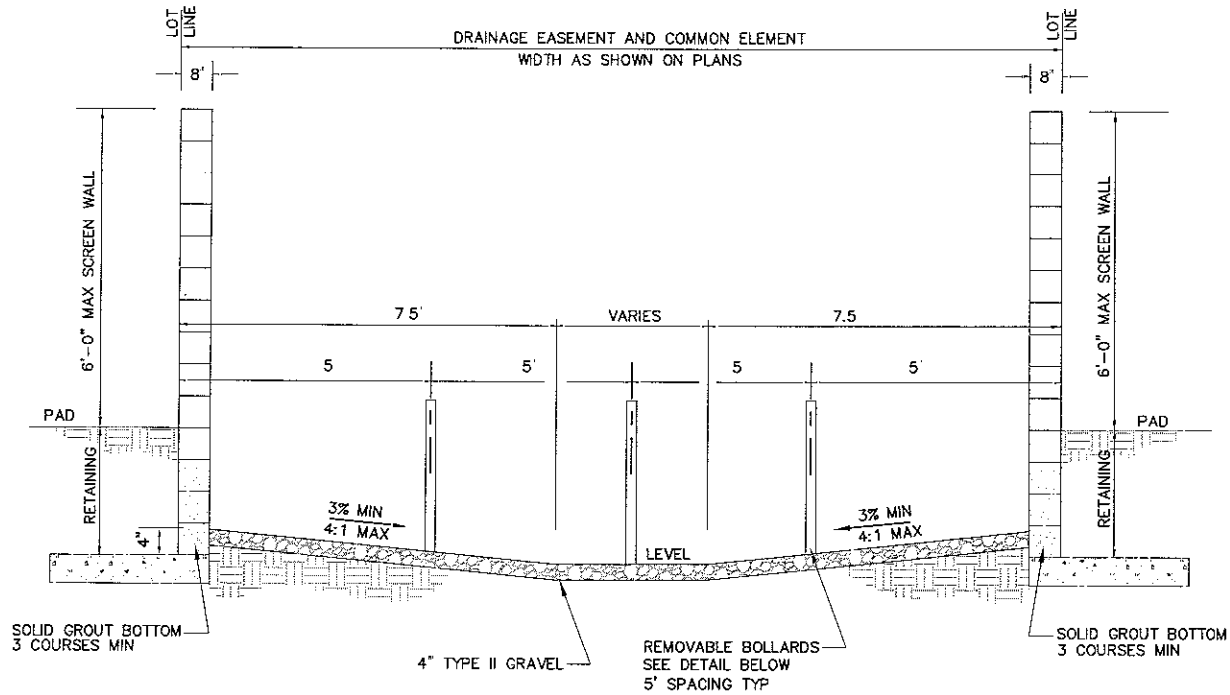
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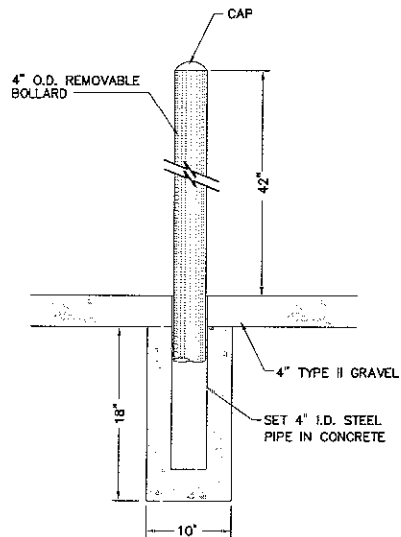
**FIGURE I-K**

DATE: 20 DEC 2005  
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**DRAINAGE EASEMENT  
TO BE PRIVATELY MAINTAINED**  
N.T.S.



**REMOVABLE BOLLARD DETAIL**  
N.T.S.

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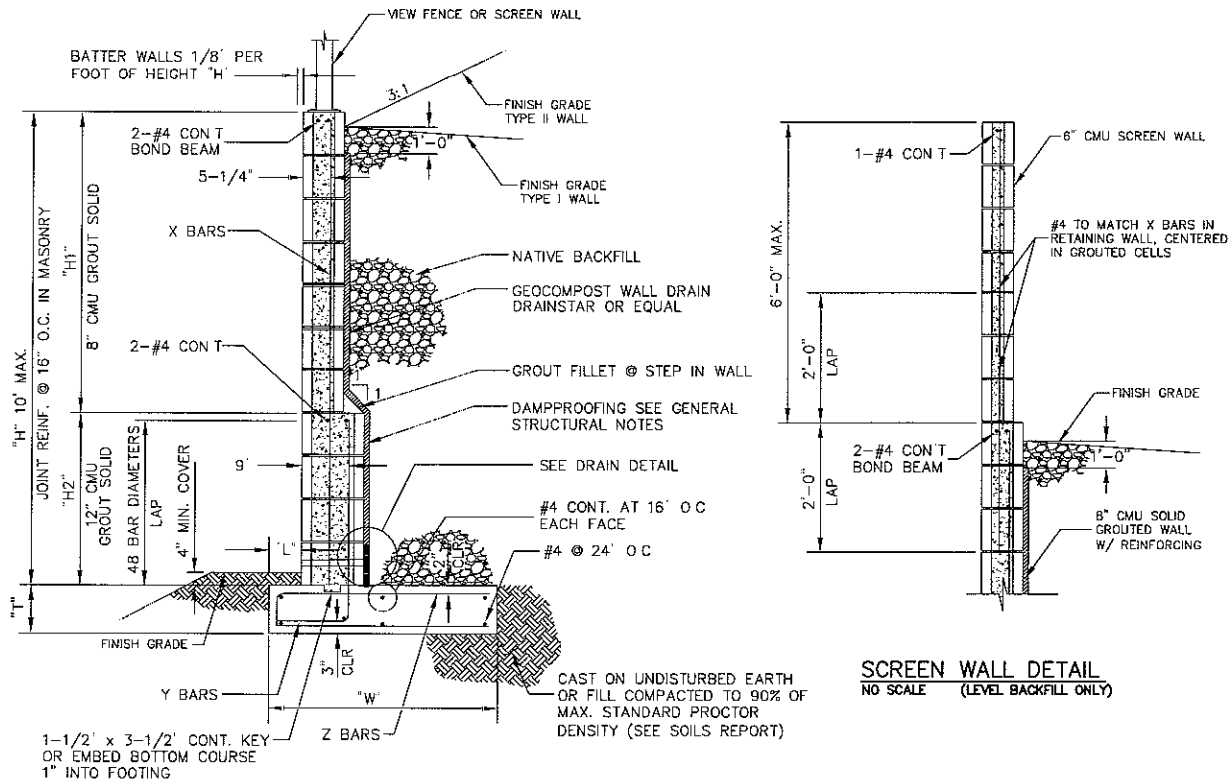


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SCALE: NOT TO SCALE

**FIGURE II-B**

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TYPE I DIMENSIONS - LEVEL BACKFILL									
H	H1	H2	W	T	L	X BARS	Y BARS	Z BARS	
WALLS NOT REQUIRING SPECIAL INSPECTION									
2'-0"	2'-0"	-	2'-6"	12"	9"	#4 @ 48"	#4 @ 48"	#4 @ 24"	
2'-8"	2'-8"	-	2'-6"	12"	9"	#4 @ 48"	#4 @ 48"	#4 @ 24"	
3'-4"	3'-4"	-	2'-6"	12"	9"	#4 @ 48"	#4 @ 48"	#4 @ 24"	
4'-0"	4'-0"	-	2'-9"	12"	9"	#4 @ 48"	#5 @ 24"	#4 @ 24"	
4'-8"	4'-8"	-	3'-3"	12"	9"	#4 @ 48"	#5 @ 24"	#4 @ 24"	
5'-4"	5'-4"	-	3'-6"	12"	9"	#4 @ 48"	#5 @ 16"	#4 @ 16"	
WALLS REQUIRING SPECIAL INSPECTION									
6'-0"	3'-4"	2'-8"	3'-9"	12"	9"	#5 @ 48"	#5 @ 24"	#5 @ 24"	
6'-8"	4'-0"	2'-8"	4'-3"	12"	9"	#5 @ 48"	#5 @ 24"	#5 @ 24"	
7'-4"	4'-8"	2'-8"	4'-6"	12"	9"	#5 @ 48"	#5 @ 24"	#5 @ 24"	
8'-0"	5'-4"	2'-8"	4'-9"	14"	9"	#5 @ 24"	#5 @ 8"	#5 @ 16"	
8'-8"	6'-0"	2'-8"	5'-3"	14"	9"	#5 @ 8"	#5 @ 8"	#5 @ 16"	
9'-4"	6'-0"	3'-4"	5'-6"	14"	9"	#6 @ 32"	#6 @ 16"	#5 @ 16"	
10'-0"	6'-8"	3'-4"	5'-9"	16"	9"	#6 @ 24"	#6 @ 16"	#6 @ 16"	

\* FOR THIS HEIGHT WALL THE X BARS MAY BE ELIMINATED BY EXTENDING THE Y BARS TO THE TOP OF THE WALL

\*\* WHEN "H2" DOES NOT EXIST LOCATE THE Y BARS IN THE SAME POSITION AS THE X BARS. EXTEND THE Y BARS INTO THE MASONRY WALL 2'-0" MINIMUM FOR A #4 BAR 2'-6" MINIMUM FOR A #5 BAR AND 3'-0" FOR A #6 BAR

TYPE II DIMENSIONS - 3:1 SLOPING BACKFILL									
H	H1	H2	W	T	L	X BARS	Y BARS	Z BARS	
WALLS NOT REQUIRING SPECIAL INSPECTION									
2'-0"	2'-0"	-	2'-0"	12"	9"	#4 @ 48"	#4 @ 48"	#4 @ 24"	
2'-8"	2'-8"	-	2'-3"	12"	9"	#4 @ 48"	#4 @ 48"	#4 @ 24"	
3'-4"	3'-4"	-	2'-6"	12"	9"	#4 @ 48"	#4 @ 48"	#4 @ 24"	
4'-0"	4'-0"	-	2'-9"	12"	9"	#4 @ 48"	#4 @ 24"	#4 @ 24"	
4'-8"	4'-8"	-	3'-6"	12"	9"	#4 @ 48"	#4 @ 24"	#4 @ 24"	
5'-4"	5'-4"	-	4'-6"	12"	9"	#4 @ 48"	#4 @ 24"	#4 @ 16"	
WALLS REQUIRING SPECIAL INSPECTION									
6'-0"	3'-4"	2'-8"	5'-3"	12"	9"	#4 @ 40"	#4 @ 24"	#5 @ 24"	
6'-8"	4'-0"	2'-8"	6'-3"	12"	9"	#4 @ 24"	#4 @ 16"	#5 @ 16"	
7'-4"	4'-8"	2'-8"	7'-0"	12"	9"	#4 @ 16"	#5 @ 8"	#5 @ 8"	
8'-0"	5'-4"	2'-8"	7'-6"	15"	9"	#4 @ 8"	#5 @ 8"	#5 @ 8"	
8'-8"	6'-0"	2'-8"	8'-3"	18"	9"	#5 @ 8"	#5 @ 8"	#5 @ 8"	
9'-4"	6'-0"	3'-4"	9'-0"	18"	9"	#5 @ 8"	#6 @ 8"	#5 @ 8"	
10'-0"	6'-8"	4'-0"	9'-6"	21"	9"	#6 @ 8"	#6 @ 8"	#5 @ 8"	

\* FOR THIS HEIGHT WALL THE X BARS MAY BE ELIMINATED BY EXTENDING THE Y BARS TO THE TOP OF THE WALL

\*\* WHEN "H2" DOES NOT EXIST LOCATE THE Y BARS IN THE SAME POSITION AS THE X BARS. EXTEND THE Y BARS INTO THE MASONRY WALL 2'-0" MINIMUM FOR A #4 BAR 2'-6" MINIMUM FOR A #5 BAR AND 3'-0" FOR A #6 BAR

### RETAINING WALL & SCHEDULE NO SCALE

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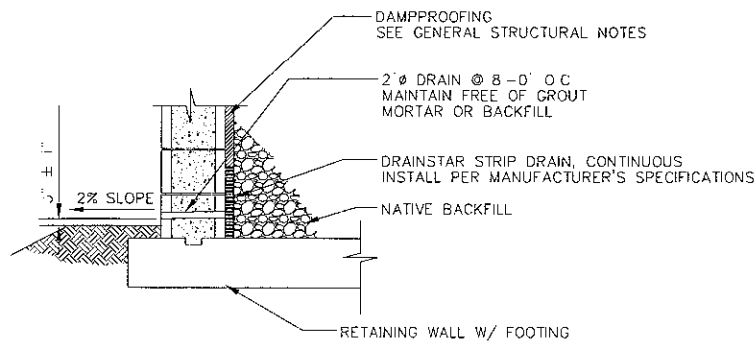


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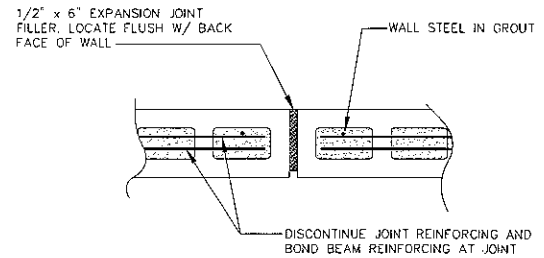
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**FIGURE II-C-1**

DATE: 20 DEC 2005  
REV:



**DRAIN DETAIL**  
NO SCALE



**CONSTRUCTION JOINT DETAIL**  
NO SCALE

### GENERAL STRUCTURAL NOTES:

- 1 REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60
- 2 CONCRETE SHALL HAVE MINIMUM STRENGTH OF 3500 psi AT 28 DAYS USING TYPE V CEMENT PER ASTM C150. (DESIGN BASED ON  $f'_c=2500$  psi NO SPECIAL INSPECTION REQUIRED)
- 3 MASONRY UNITS SHALL BE ASTM C90, GRADE N-1 HOLLOW CONCRETE UNITS. MASONRY DESIGN STRESS IS AS FOLLOWS: 8" CMU  $f_m=1500$  psi, 12" CMU  $f_m=1900$  psi. FULL STRESSES ARE USED WHERE SPECIAL INSPECTION IS SPECIFIED. SPECIAL INSPECTION SHALL BE PER THE 1997 UBC SECTION 1701
- 4 MORTAR SHALL BE ASTM C270 TYPE "M" OR "S" WITH MINIMUM STRENGTH OF 1800 psi AT 28 DAYS USING TYPE V CEMENT PER ASTM C1500
- 5 GROUT SHALL BE PER ASTM C476 WITH A MINIMUM STRENGTH OF 2000 psi AT 28 DAYS USING TYPE V CEMENT PER ASTM C-150
- 6 HORIZONTAL JOINT REINFORCING SHALL BE 9-GA. LADDER TYPE PER UBC STD 21-10 WITH LAP SPLICES OF 12" MINIMUM INCLUDING CORNERS AND INTERSECTIONS
- 7 UNLESS OTHERWISE NOTED, ALL CONSTRUCTION SHALL CONFORM TO THE UNIFORM BUILDING CODE, LATEST EDITION, AND PER STANDARD SPECIFICATIONS FOR THE CITY OF HENDERSON, NEVADA BUILDING DEPARTMENT
- 8 ALL WALLS ARE SUBJECT TO APPROVAL BY THE CITY OF HENDERSON NEVADA BUILDING DEPARTMENT
- 9 SOLID GROUT ALL MASONRY UNITS THAT ARE AT OR BELOW FINISH GRADE
- 10 ALL CORNERS OR ANGLES SHALL BE TIED TOGETHER WITH REINFORCING STEEL AND GROUTED SOLID.
- 11 WHERE VERTICAL GROUT POURS ARE NOT CONTINUOUS FOR THE ENTIRE HEIGHT OF THE WALL, TERMINATE LIFT 1 1/2" BELOW TOP OF TOP BLOCK TO FORM A KEY FOR FUTURE LIFTS
- 12 LOCATE CONTROL JOINTS IN RETAINING WALL AT A MAXIMUM SPACING OF 24'-0"
- 13 BOND BEAMS AND JOINT REINFORCING SHALL NOT BE CONTINUOUS THROUGH WALL CONSTRUCTION JOINTS
- 14 WALLS SHALL BE STEPPED ONLY AS SHOWN ON THE PLANS
- 15 IF ACTUAL HEIGHT OF WALL IS NOT LISTED IN TABLE USE STEEL AND DIMENSIONS FOR NEXT HIGHEST WALL LISTED
- 16 DAMPPROOFING. DAMPPROOFING SHALL BE AS FOLLOWS.
  - A. APPLY WATCHDOG WATERPROOFING MEMBRANE, AS MANUFACTURED BY KOCH MATERIALS COMPANY, OVER SOIL SIDE OF RETAINING WALL. APPLICATION OF THE WATCHDOG WATERPROOFING MEMBRANE SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS
  - B. INSTALL A 24-MIL DIMPLED HDPE MEMBRANE OVER KOCH WATCHDOG MEMBRANE. PROVIDE DELTA-MS AS MANUFACTURED BY COSELLA - DORKEN. APPLICATION OF THE DELTA-MS SYSTEM SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS DETAILS AND MATERIALS.
- 17 BACKFILL BEHIND WALLS SHALL BE COMPACTED TO 90% OF STANDARD PROCTOR DENSITY
- 18 WHERE RETAINING WALLS ARE SHOWN ON PERIMETER STREETS, USE DECORATIVE BLOCK TO MATCH THOSE OF THE PERIMETER WALLS.
- 19 SOILS REPORT PREPARED BY KLEINFELDER INC. PROJECT No 21158 DATED OCT 03 2002
 

ALLOWABLE SOILS BEARING PRESSURE = 2500 psf FOR 12' WIDE FOOTING PLUS 800 psf FOR EACH ADDITIONAL FOOT OF WIDTH OF FOOTING 5000 psf MAXIMUM  
 SOIL ACTIVE PRESSURE = 35 psf/ft (LEVEL)  
 SOIL PASSIVE PRESSURE = 300 psf/ft  
 COEFFICIENT OF FRICTION = 0.40

## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH

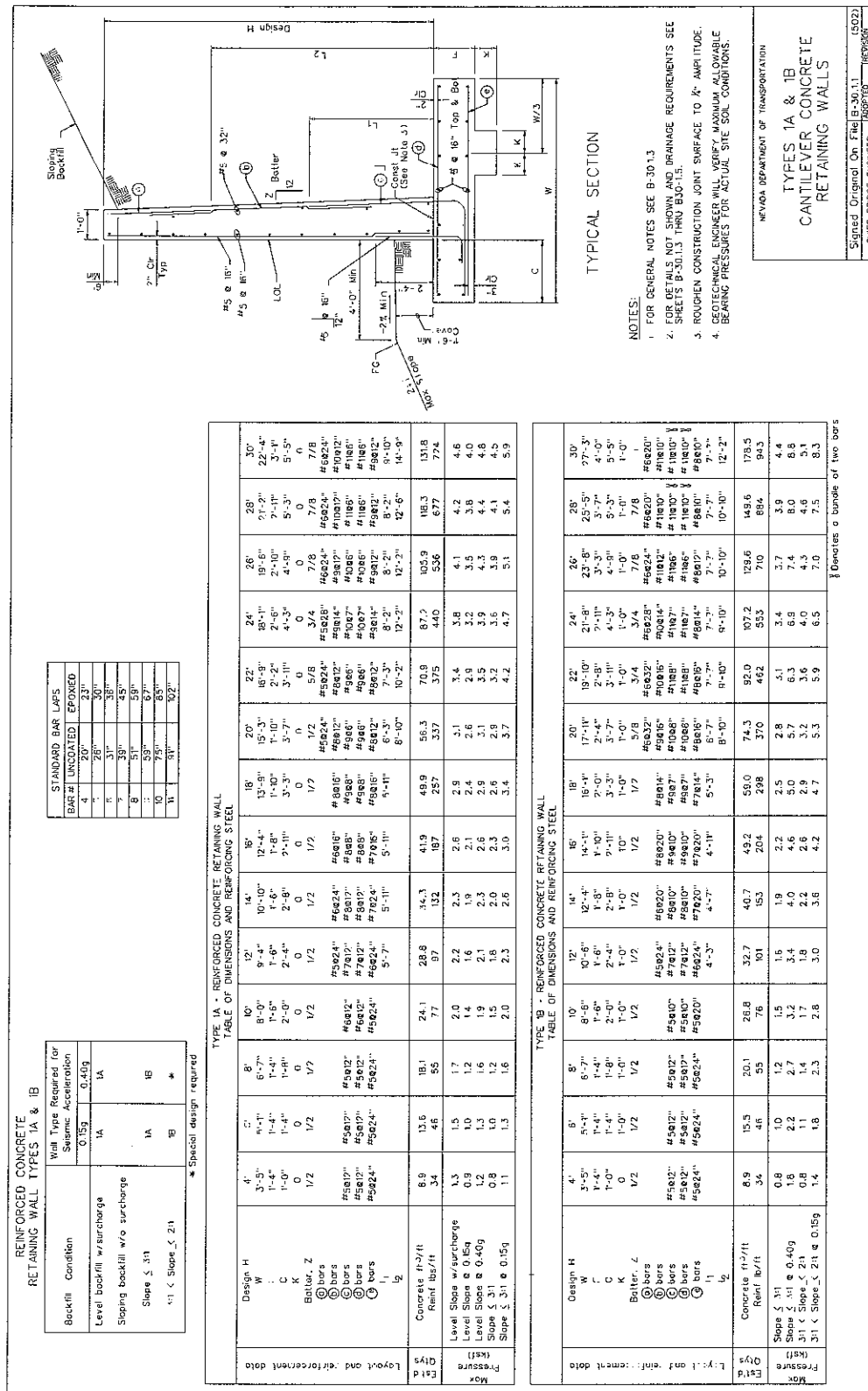


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SCALE: NOT TO SCALE

**FIGURE II-C-2**

DATE: 20 DEC 2005  
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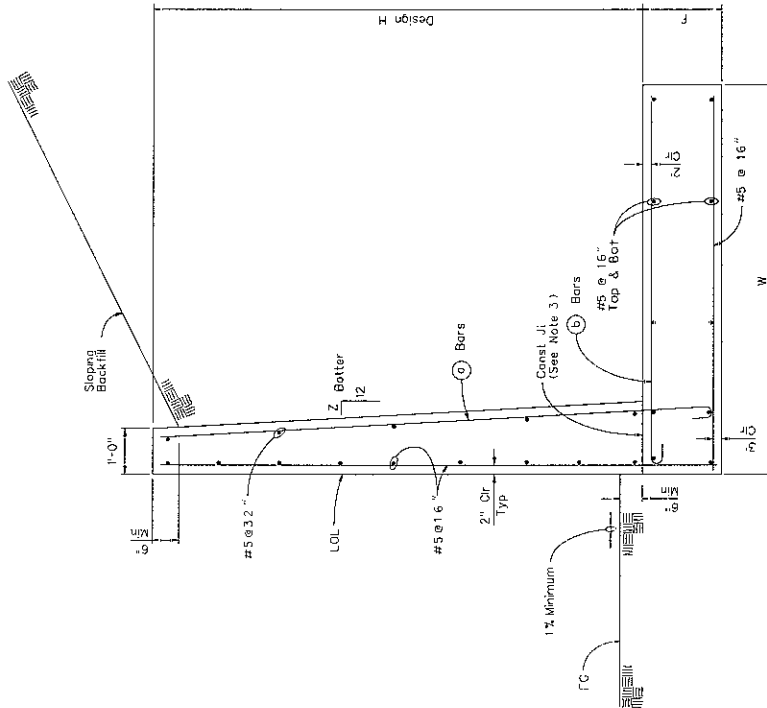


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**FIGURE II-D-1**

DATE: 20 DEC 2005  
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TYPICAL SECTION

REINFORCED CONCRETE  
RETAINING WALL TYPE 2

Backfill Condition	Wall Type Required for Seismic Acceleration
Level backfill w/ surcharge	2 0.15g 2 0.40g
Sloping backfill w/o surcharge	-
$Slope \leq 3:1$	2 2
$3:1 < Slope \leq 2:1$	2 *

STANDARD BAR LAPS		
BAR #	UNCOATED	EPOXIED
4	20"	23"
5	26"	30"
6	31"	36"
7	39"	45"
8	51"	59"
9	59"	67"
10	75"	85"
11	91"	102"

TYPE 2 - REINFORCED CONCRETE RETAINING WALL  
TABLE OF DIMENSIONS AND REINFORCING STEEL

TYPE 2 - REINFORCED CONCRETE RETAINING WALL TABLE OF DIMENSIONS AND REINFORCING STEEL							
Design H W Batter Z ⑤ bars ⑥ bars	4'	6'	8'	10'	12'	Elev'd Olys	
	4'-1" 0 #5@12" #5@12"	5'-1" 0 #6@10" #6@10"	6'-7" 1'-6" #5@12" #5@12"	8'-0" 1'-6" 3/8 #6@10" #6@10"	9'-6" 1'-10" 3/8 #7@10" #7@10"		
Concrete ft <sup>2</sup> /ft Reinft lb/ft	9.5 33	12.8 45	17.9 61	23.6 80	33.9 111		
Level Backfill w/surcharge Level Backfill @ 0.15g Level Backfill @ 0.40g Slope 3:1 Slope 3:1 @ 0.15g Slope 3:1 @ 0.40g 3:1 c Slope 3:1 3:1 c Slope 3:1 @ 0.15g	1.6 1.4 1.2 3.1 3.1 3.1 2.1 2.9	2.4 1.8 1.7 2.2 2.2 2.2 2.0 2.9	2.8 2.1 2.2 2.6 2.7 2.7 4.3 3.8	3.2 2.5 3.0 3.7 4.0 5.2 6.1 5.8	3.7 2.9 3.5 4.0 6.4 8.4 9.8 9.8		
	Max Pressure (ksf)						

NOTES:

1. FOR GENERAL NOTES SEE B-30.1.3
2. FOR DETAILS NOT SHOWN AND DRAINAGE REQUIREMENTS SEE SHEETS B-30.1.3 THRU B-30.1.5.
3. ROUGHEN CONSTRUCTION JOINT SURFACE TO 1/4" AMPLITUDE.
4. GEOTECHNICAL ENGINEER WILL VERIFY MAXIMUM ALLOWABLE BEARING PRESSURES FOR ACTUAL SITE SOIL CONDITIONS.

NEVADA DEPARTMENT OF TRANSPORTATION

TYPE 2  
CANTILEVER CONCRETE  
RETAINING WALL

Signed Original On File	B-30.1.2	(502)
CHIEF BRIDGE ENGINEER	ADOPTED 12/02	REVISION 7/04

RHODES HOMES ARIZONA, LLC  
GOLDEN VALLEY RANCH



**Stanley Consultants INC.**

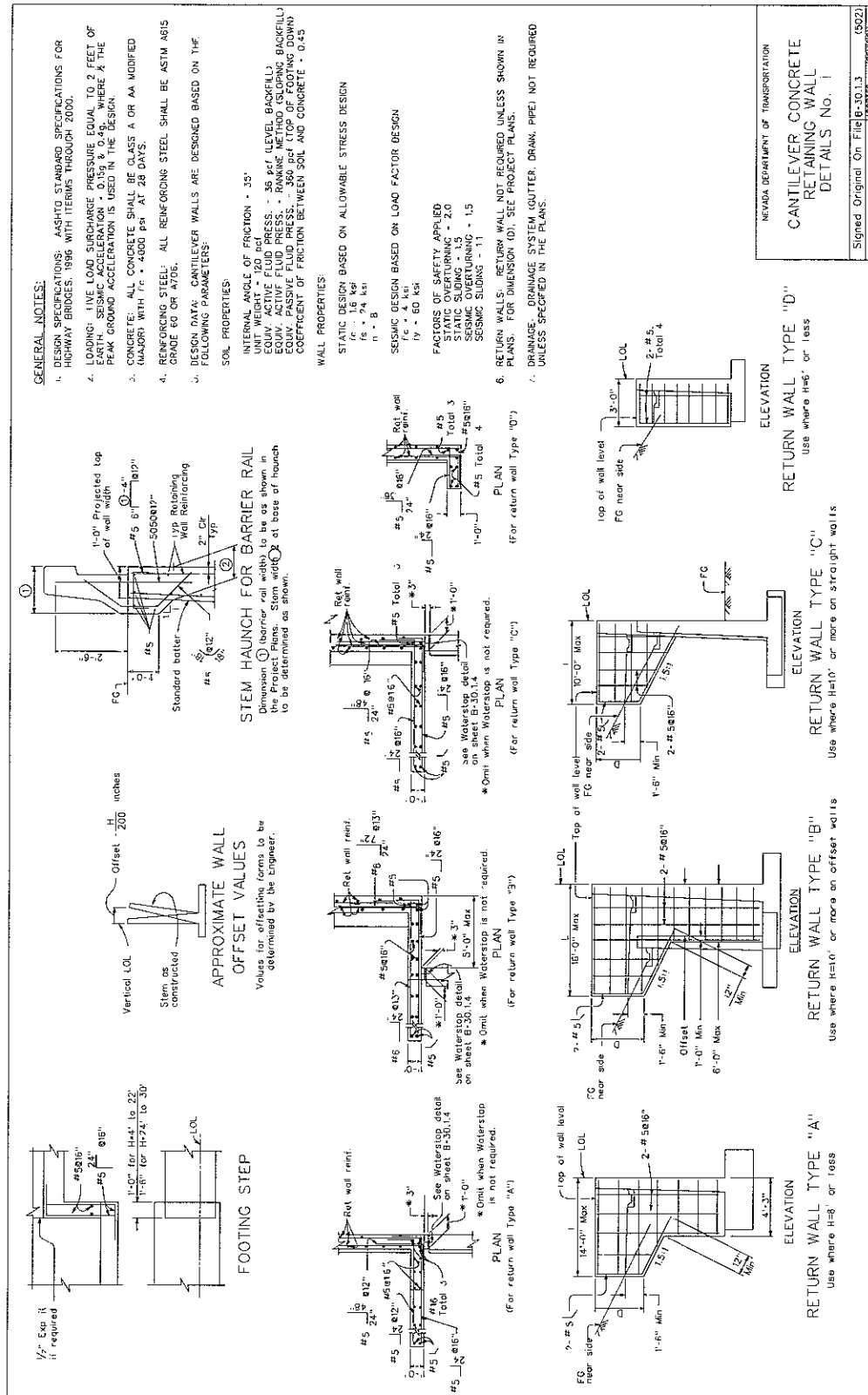
5820 S. EASTERN AVENUE, SUITE 200  
LAS VEGAS NEVADA 89119  
(702) 369-9396 Fax (702) 369-9793

SCALE: NOT TO SCALE

FIGURE II-D-2

DATE: 20 DEC 2005  
REV:

ST-RH036250



NEVADA DEPARTMENT OF TRANSPORTATION	
CANTILEVER CONCRETE RETAINING WALL DETAILS No. 1	
Signed Original On File B-10.13	(5022)
CHIEF BRIDGE ENGINEER	12/02

## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH



**Stanley Consultants INC.**  
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LAS VEGAS NEVADA 89119  
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SCALE: NOT TO SCALE

**FIGURE II-D-3**

DATE: 20 DEC 2005  
REV:



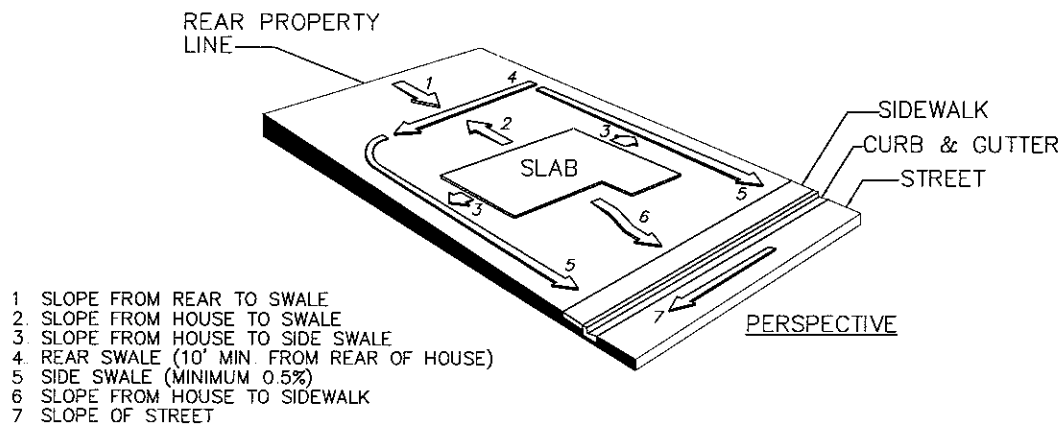
FIGURE II-D-4

ST-RH036252









**TYPICAL LOT GRADING**  
N.T.S

**RHODES HOMES ARIZONA, LLC**  
**GOLDEN VALLEY RANCH**

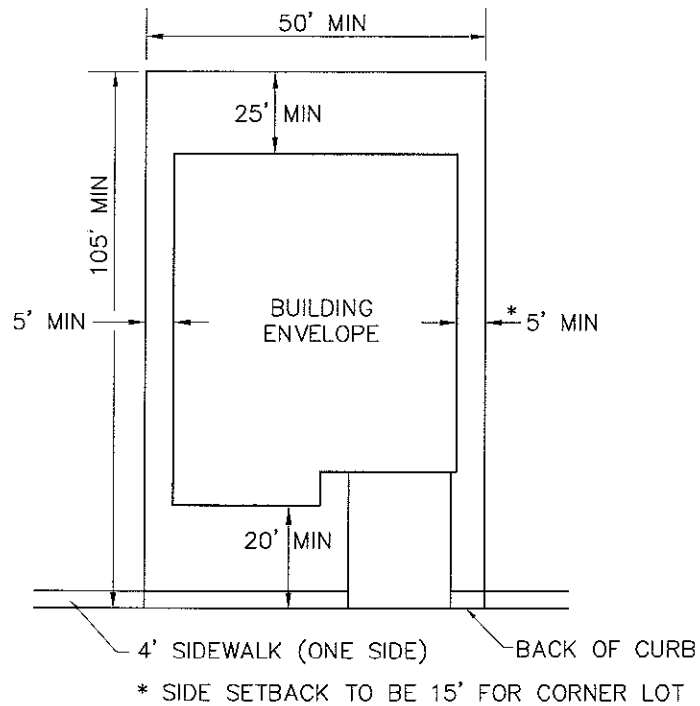


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5820 S. EASTERN AVENUE, SUITE 200  
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SCALE: NOT TO SCALE

**FIGURE III-A**

DATE: 20 DEC 2005  
REV:



### TYPICAL SETBACKS FOR ALL LOTS

NTS

## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH



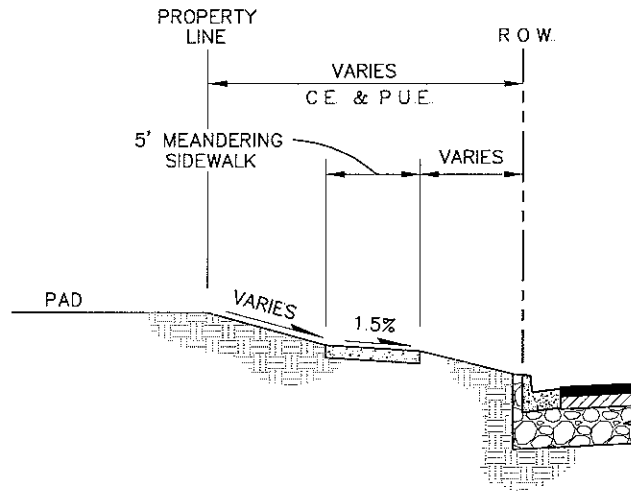
**Stanley Consultants INC.**  
5820 S. EASTERN AVENUE, SUITE 200  
LAS VEGAS NEVADA 89119  
(702) 369-9396 Fax (702) 369-9793

SCALE: NOT TO SCALE

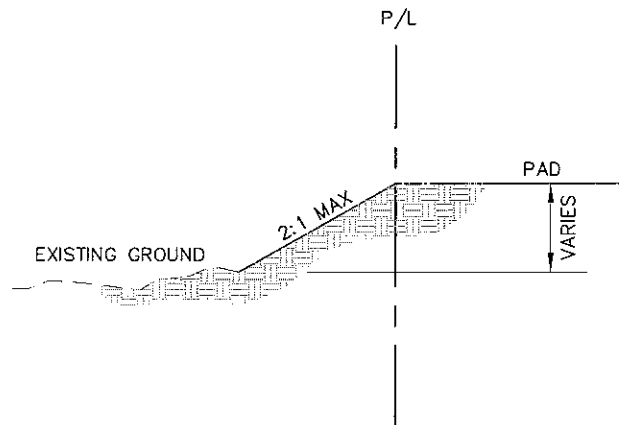
**FIGURE III-B**

DATE: 20 DEC 2005  
REV:

## LOT GRADING DETAILS



**REAR YARD SECTION AT PERIMETER STREET**  
N.T.S.



**REAR YARD SECTION AT PERIMETER BOUNDARY**  
N.T.S.

## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH



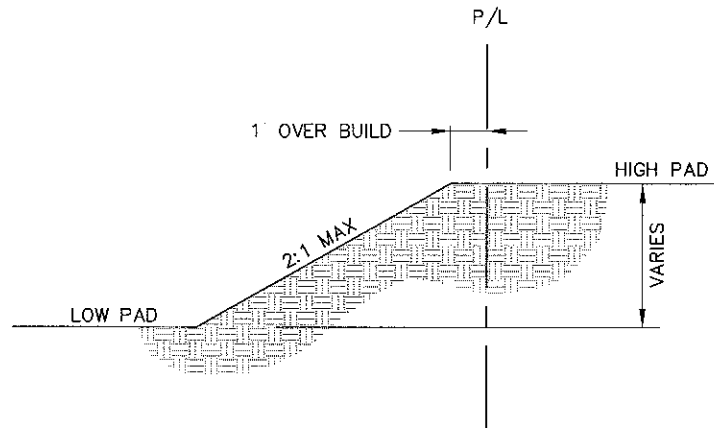
**Stanley Consultants INC.**  
5820 S. EASTERN AVENUE, SUITE 200  
LAS VEGAS, NEVADA 89119  
(702) 369-9396 Fax (702) 369-9793

SCALE: NOT TO SCALE

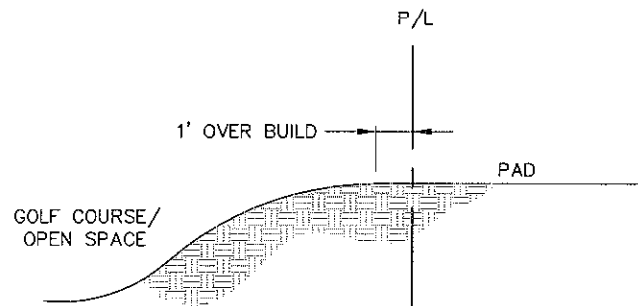
**FIGURE III-C**

DATE: 20 DEC 2005  
REV:

## LOT GRADING DETAILS



**REAR YARD SECTION WITH SCARP**  
N.T.S.



**REAR YARD SECTION AT GOLF  
COURSE / OPEN SPACE**  
N.T.S.

## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH



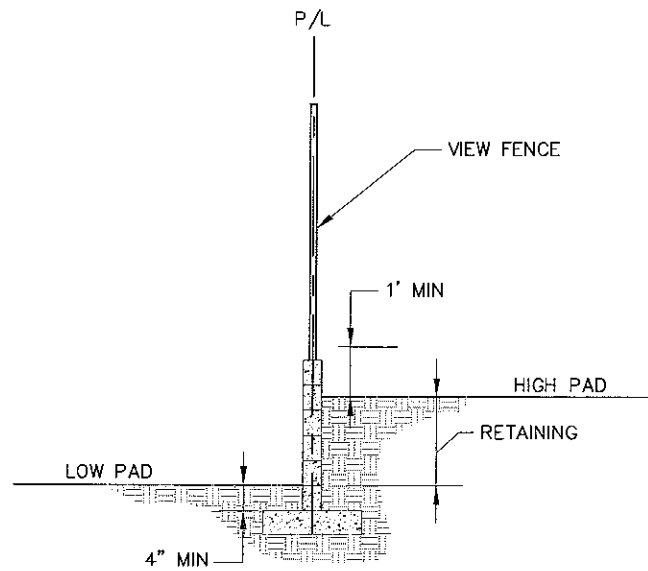
**Stanley Consultants** INC  
5820 S. EASTERN AVENUE, SUITE 200  
LAS VEGAS NEVADA 89119  
(702) 369-9396 Fax (702) 369-9793

SCALE: NOT TO SCALE

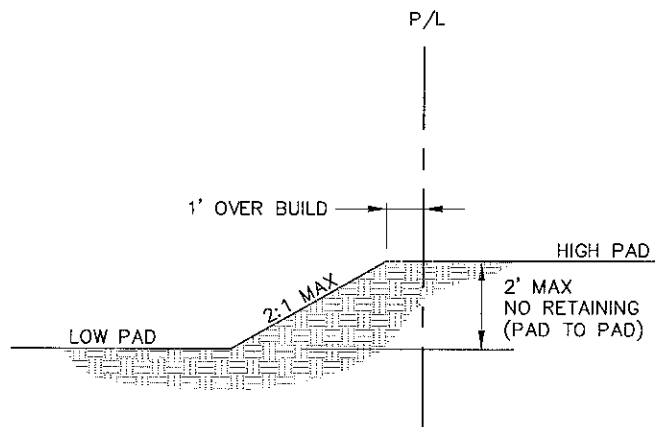
**FIGURE III-D**

DATE: 20 DEC 2005  
REV:

## LOT GRADING DETAILS



**REAR / SIDE YARD SECTION WITH RETAINING**  
N.T.S.



**SIDE YARD SECTION - NO RETAINING**  
N.T.S.

**RHODES HOMES ARIZONA, LLC**  
**GOLDEN VALLEY RANCH**



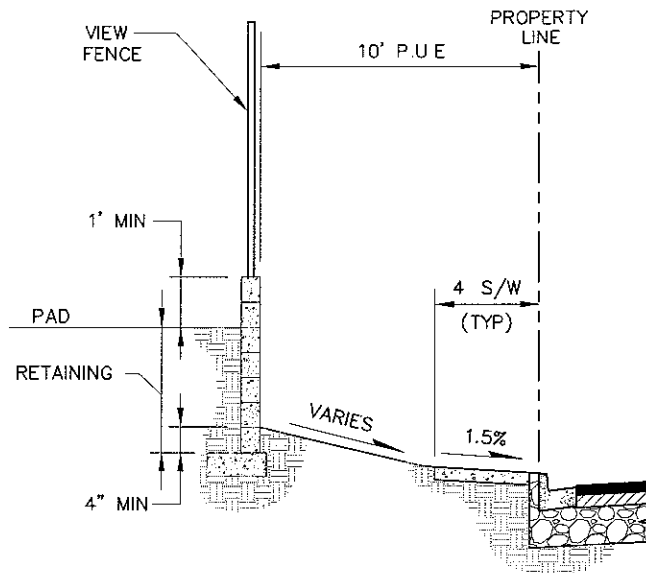
**Stanley Consultants INC.**  
5820 S EASTERN AVENUE, SUITE 200  
LAS VEGAS NEVADA 89119  
(702) 369-9396 Fax (702) 369-9793

SCALE: NOT TO SCALE

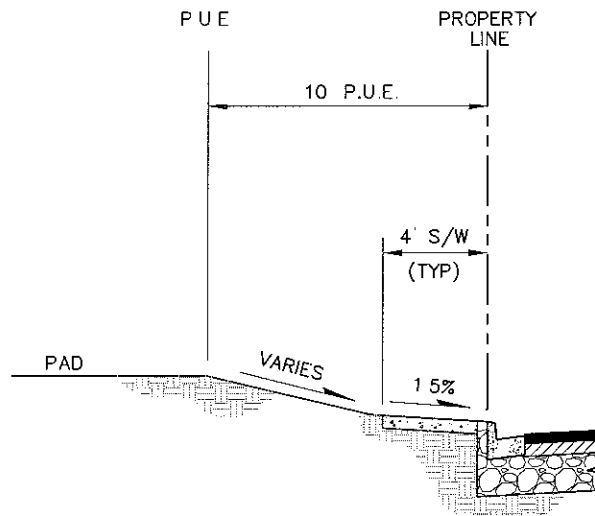
**FIGURE III-E**

DATE: 20 DEC 2005  
REV:

## LOT GRADING DETAILS



**SIDE YARD CORNER LOT SECTION AT  
COLLECTOR WITH RETAINING**  
N.T.S



**SIDE YARD CORNER LOT SECTION AT  
COLLECTOR - NO RETAINING**  
N.T.S

## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH



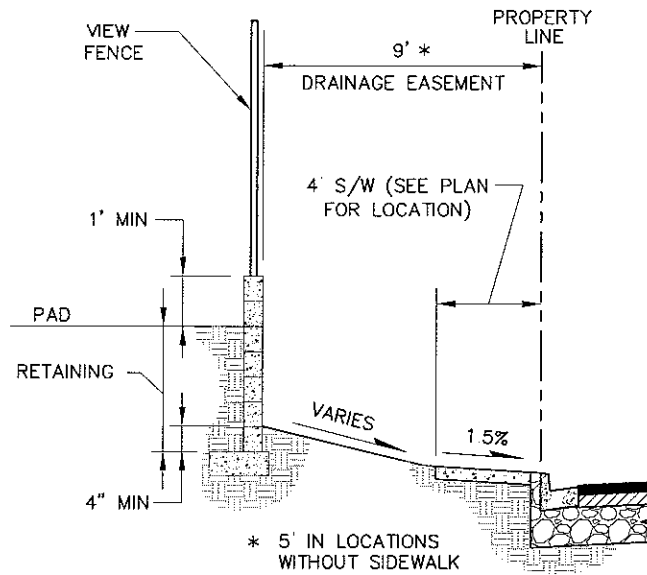
**Stanley Consultants INC.**  
5820 S. EASTERN AVENUE, SUITE 200  
LAS VEGAS, NEVADA 89119  
(702) 369-9396 Fax (702) 369-9793

SCALE: NOT TO SCALE

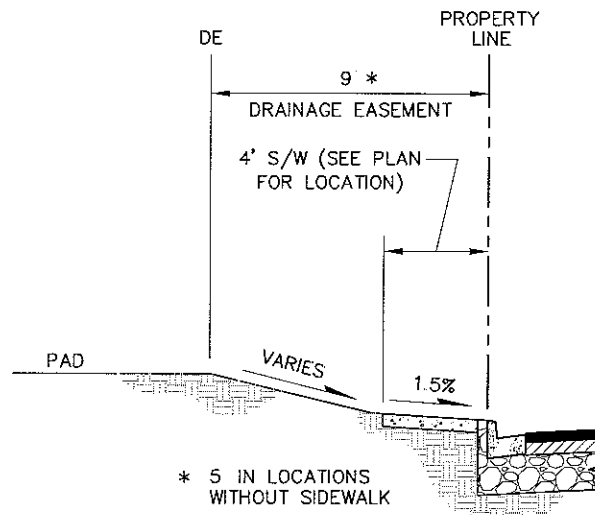
**FIGURE III-F**

DATE: 20 DEC 2005  
REV:

## LOT GRADING DETAILS



**SIDE YARD CORNER LOT SECTION  
WITH RETAINING**  
N.T.S.



**SIDE YARD CORNER LOT SECTION  
NO RETAINING**  
N.T.S.

## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH

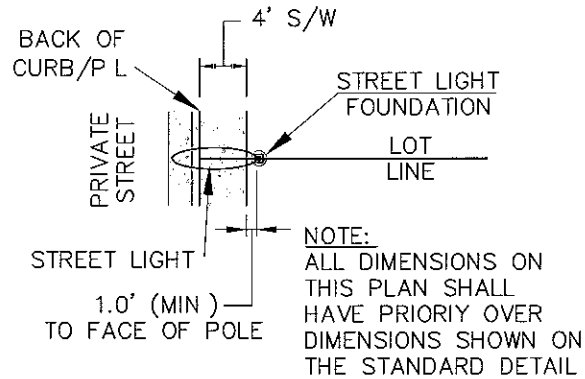


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5820 S. EASTERN AVENUE, SUITE 200  
LAS VEGAS NEVADA 89119  
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SCALE: NOT TO SCALE

**FIGURE III-G**

DATE: 20 DEC 2005  
REV:



NOTE:  
IN LOCATIONS WHERE LIGHT POLE IS NOT  
ADJACENT TO A SIDEWALK, FACE OF POLE TO  
BE 3' FROM BACK OF CURB

**STREETLIGHT LOCATION**  
N.T.S

**RHODES HOMES ARIZONA, LLC**  
**GOLDEN VALLEY RANCH**



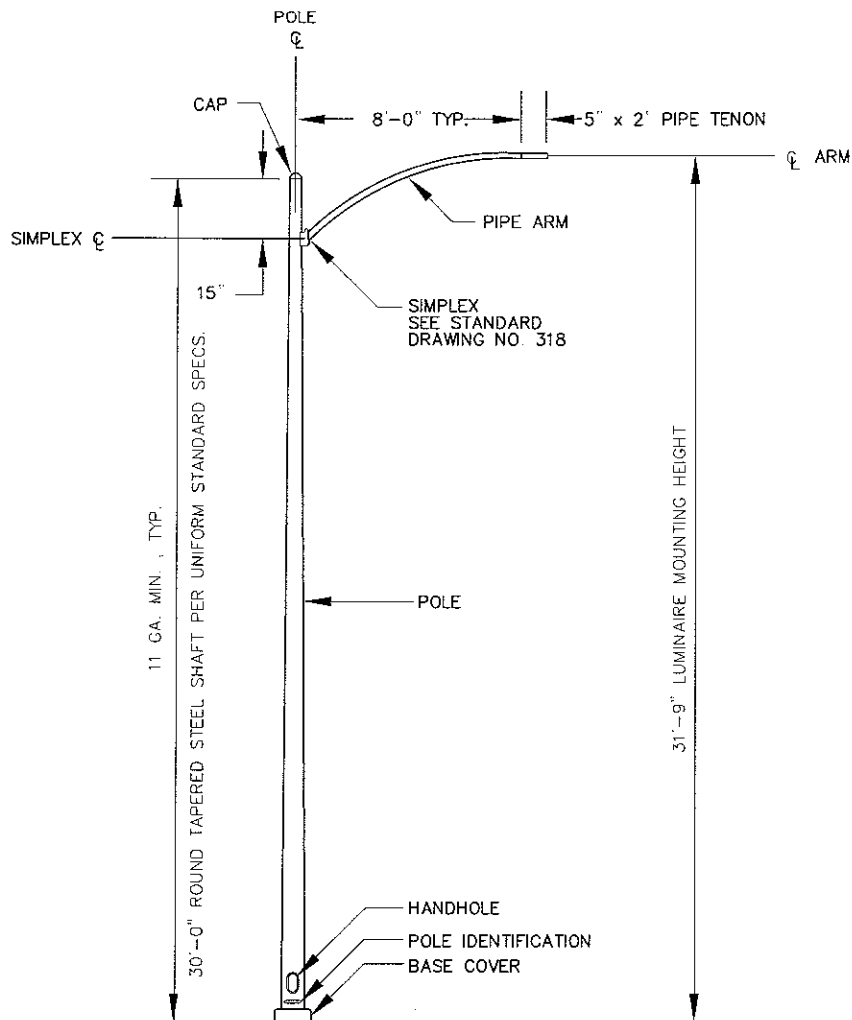
**Stanley Consultants INC.**  
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LAS VEGAS NEVADA 89119  
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SCALE: NOT TO SCALE

**FIGURE IV-A**

DATE: 20 DEC 2005  
REV:



**NOTES:**

1. SEE GENERAL NOTES STANDARD DRAWING NO. 313.
2. SEE STANDARD DRAWING NO. 319 FOR DETAIL OF POLE BASE
3. SEE STANDARD DRAWING NO. 318 FOR DETAIL OF POLE CAP.

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA	
506	STEEL STRUCTURES	STREETLIGHT STANDARD WITH 2" PIPE ARM	
623	TRAFFIC SIGNALS & STREETLIGHTING		
715	GALVANIZING		
		DATE 12-12-96	DWG. NO. 314 PAGE NO. 74

## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH

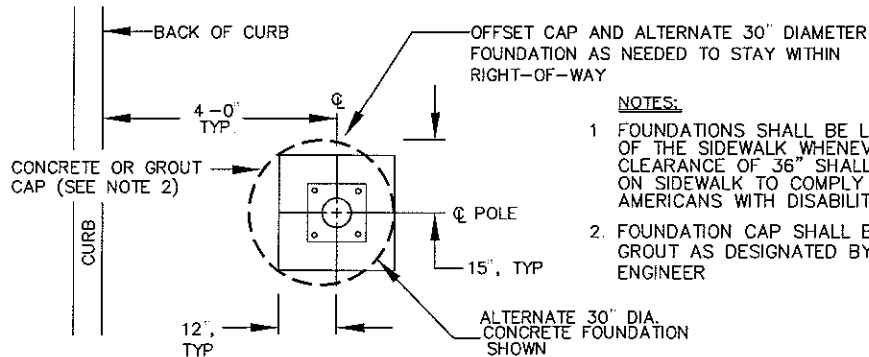
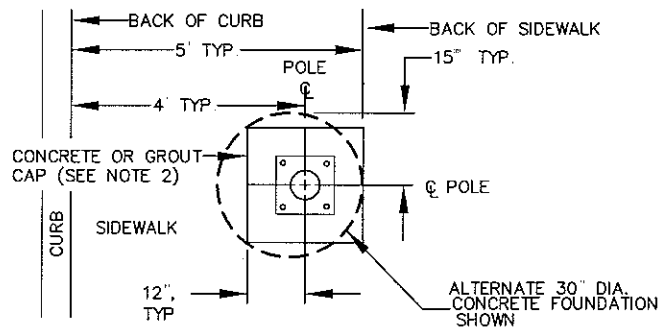
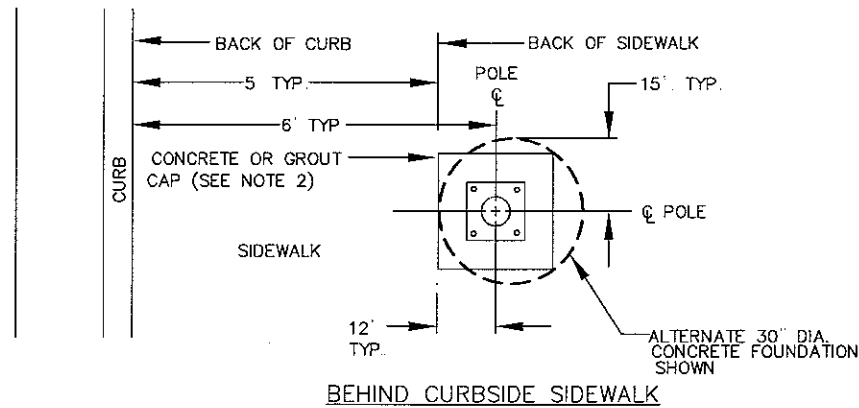

**Stanley Consultants INC.**

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LAS VEGAS NEVADA 89119  
(702) 369-9396 Fax (702) 369-9793

SCALE: NOT TO SCALE

**FIGURE IV-B**

DATE: 20 DEC 2005  
REV:



**NOTES:**

1. FOUNDATIONS SHALL BE LOCATED OUTSIDE OF THE SIDEWALK WHENEVER FEASIBLE. A CLEARANCE OF 36" SHALL BE MAINTAINED ON SIDEWALK TO COMPLY WITH THE AMERICANS WITH DISABILITIES ACT.
2. FOUNDATION CAP SHALL BE CONCRETE OR GROUT AS DESIGNATED BY THE ENTITY ENGINEER

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA	
501	PORTLAND CEMENT CONCRETE	LIGHTING STANDARD SETBACK	
623	TRAFFIC SIGNALS & STREETLIGHTING		
		DATE 7-8-04	DWG. NO. 320 PAGE NO. 80

**RHODES HOMES ARIZONA, LLC  
GOLDEN VALLEY RANCH**

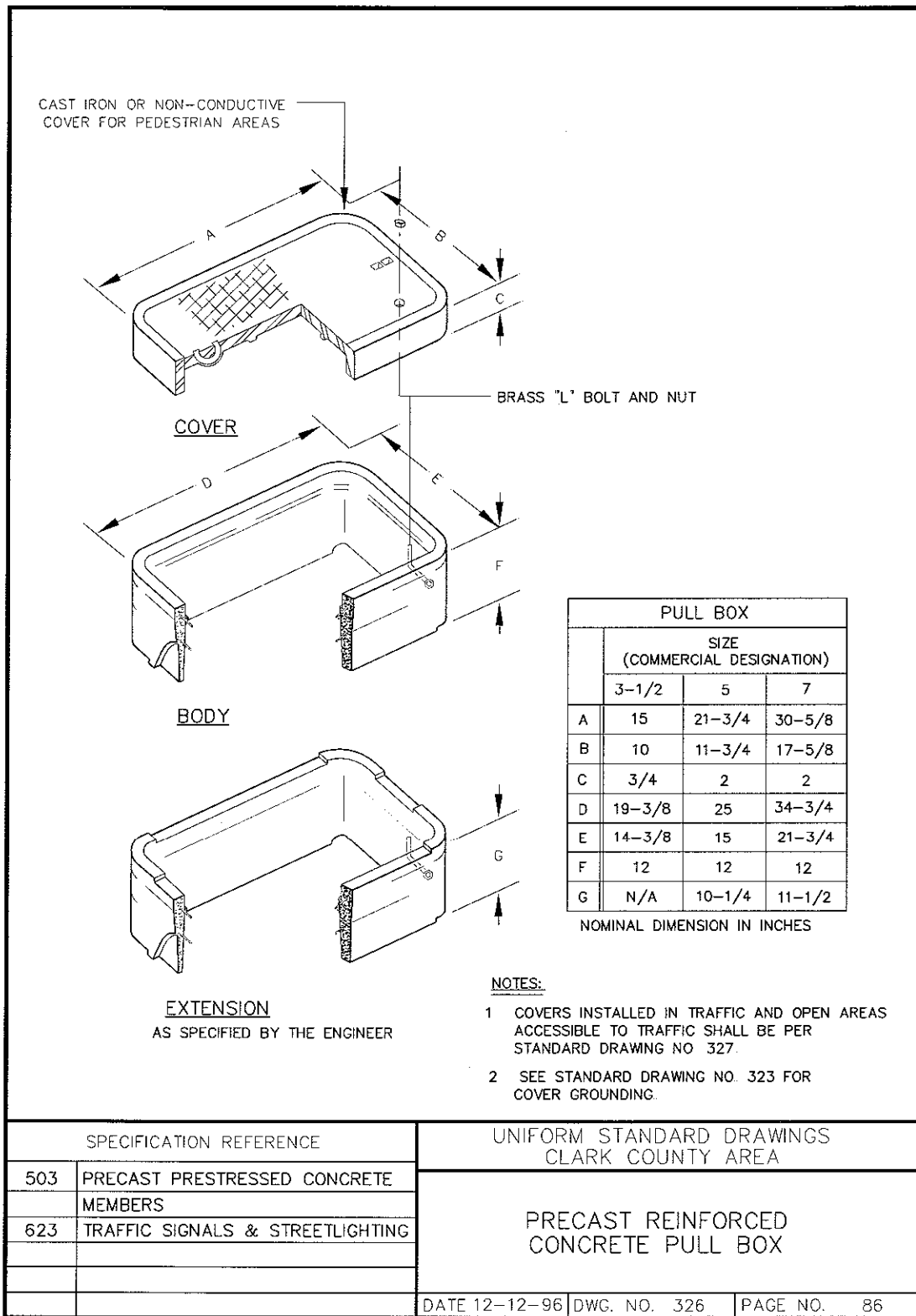


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5820 S. EASTERN AVENUE, SUITE 200  
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SCALE: NOT TO SCALE

**FIGURE IV-C**

DATE: 20 DEC 2005  
REV:



## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH

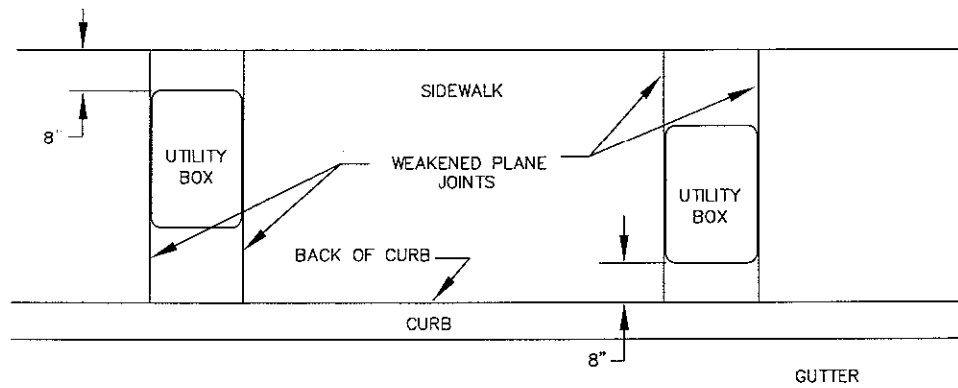


**Stanley Consultants INC.**  
5820 S. EASTERN AVENUE, SUITE 200  
LAS VEGAS NEVADA 89119  
(702) 369-9396 Fax (702) 369-9793

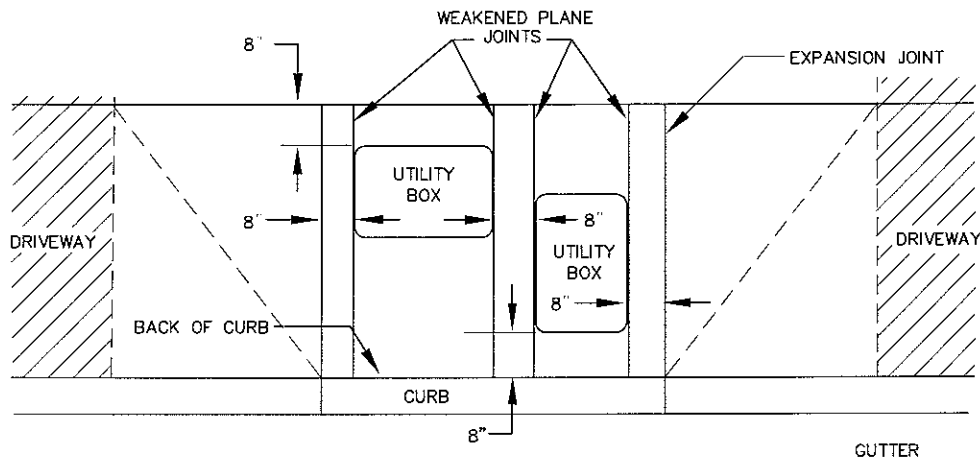
SCALE: NOT TO SCALE

**FIGURE IV-D**

DATE: 20 DEC 2005  
REV:



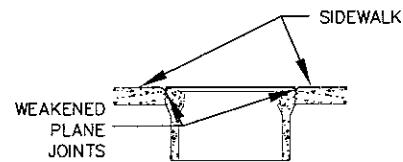
UTILITY BOXES IN SIDEWALK



UTILITY BOXES BETWEEN DRIVEWAYS

**NOTE:**

PROVIDE A MINIMUM OF 8" AROUND ALL BOXES.  
ANY BOX SHALL NOT BE PLACED WITHIN 3'-3" OF  
FIRE HYDRANTS IN DRIVEWAYS OR DRIVEWAY APRONS.  
THIS DRAWING IS NOT INTENDED TO LIMIT THE NUMBER  
OF BOXES BETWEEN DRIVEWAYS TO TWO



TYPICAL SECTION

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA	
505	REINFORCING STEEL	UTILITY PULL BOX LOCATIONS SIDEWALK AND BETWEEN DRIVEWAYS	
623	TRAFFIC SIGNALS & STREETLIGHTING		
		DATE 12-12-96	DWG. NO. 328 PAGE NO. 88

## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH

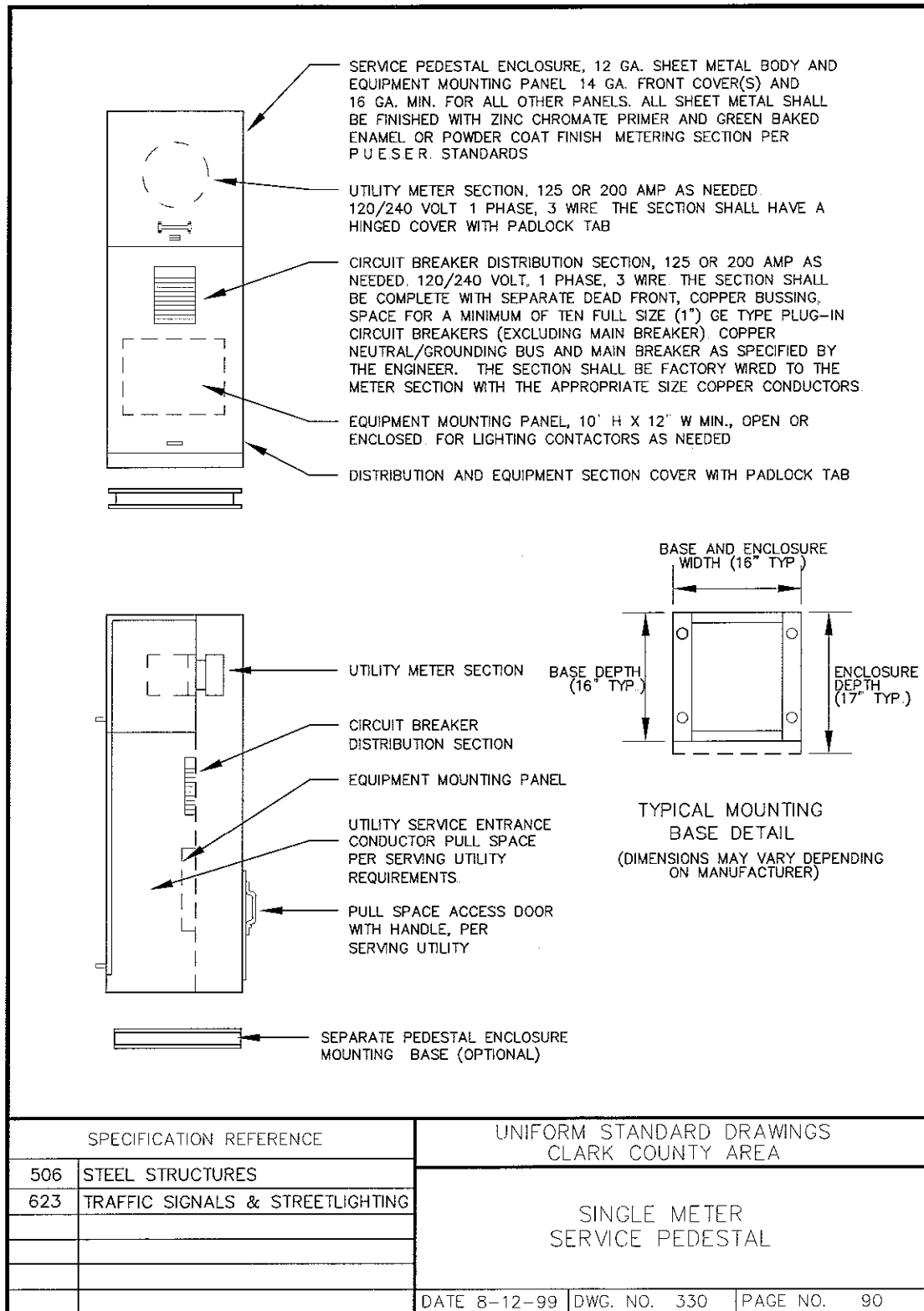


**Stanley Consultants INC.**  
5820 S. EASTERN AVENUE, SUITE 200  
LAS VEGAS NEVADA 89119  
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SCALE: NOT TO SCALE

**FIGURE IV-E**

DATE: 20 DEC 2005  
REV:



## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH

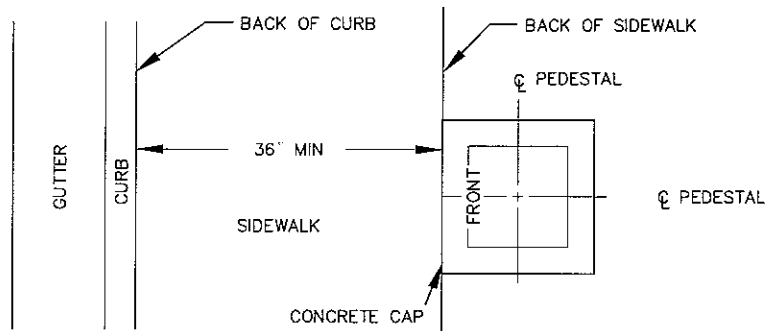


**Stanley Consultants INC.**  
5820 S. EASTERN AVENUE, SUITE 200  
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(702) 369-9396 Fax (702) 369-9793

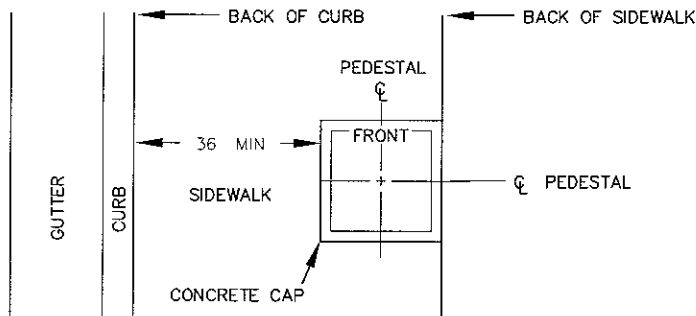
SCALE: NOT TO SCALE

**FIGURE IV-F**

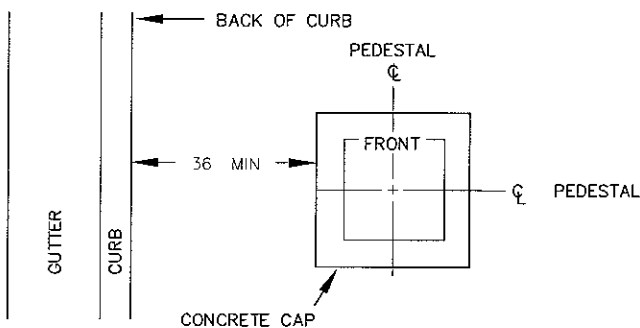
DATE: 20 DEC 2005  
REV:



BEHIND SIDEWALK (FOR WIDTHS LESS THAN 5 FT.)



BACK PORTION OF SIDEWALK (FOR WIDTHS OF 5 FT. OR GREATER)



OPEN AREA

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA	
501	PORTLAND CEMENT CONCRETE	SERVICE PEDESTAL SETBACK	
623	TRAFFIC SIGNALS & STREETLIGHTING		
		DATE 12-12-96	DWG. NO. 331 PAGE NO. 91

## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH



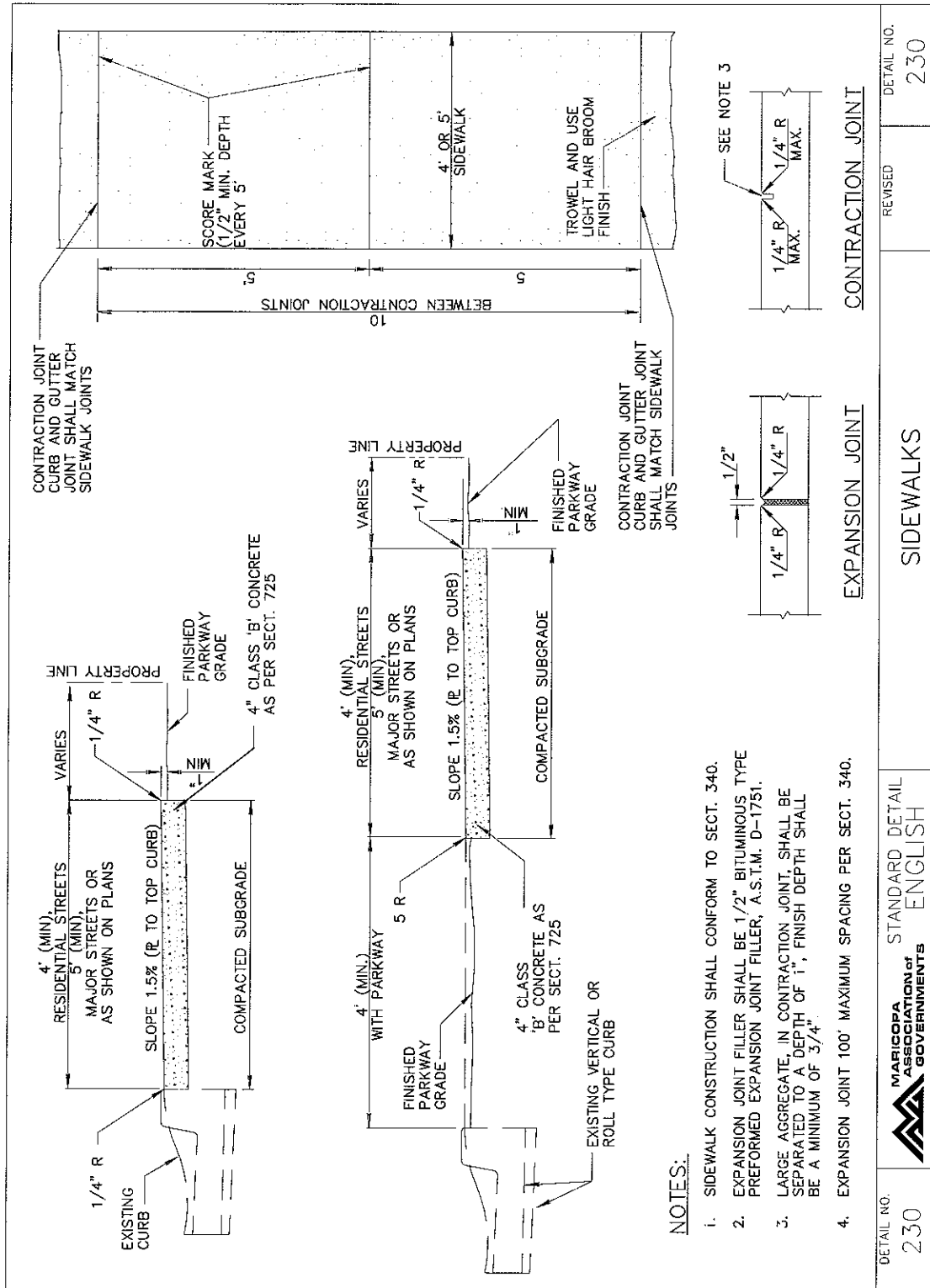
**Stanley Consultants INC.**  
5820 S. EASTERN AVENUE, SUITE 200  
LAS VEGAS NEVADA 89119  
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SCALE: NOT TO SCALE

**FIGURE IV-G**

DATE: 20 DEC 2005  
REV:





## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH



**Stanley Consultants INC.**

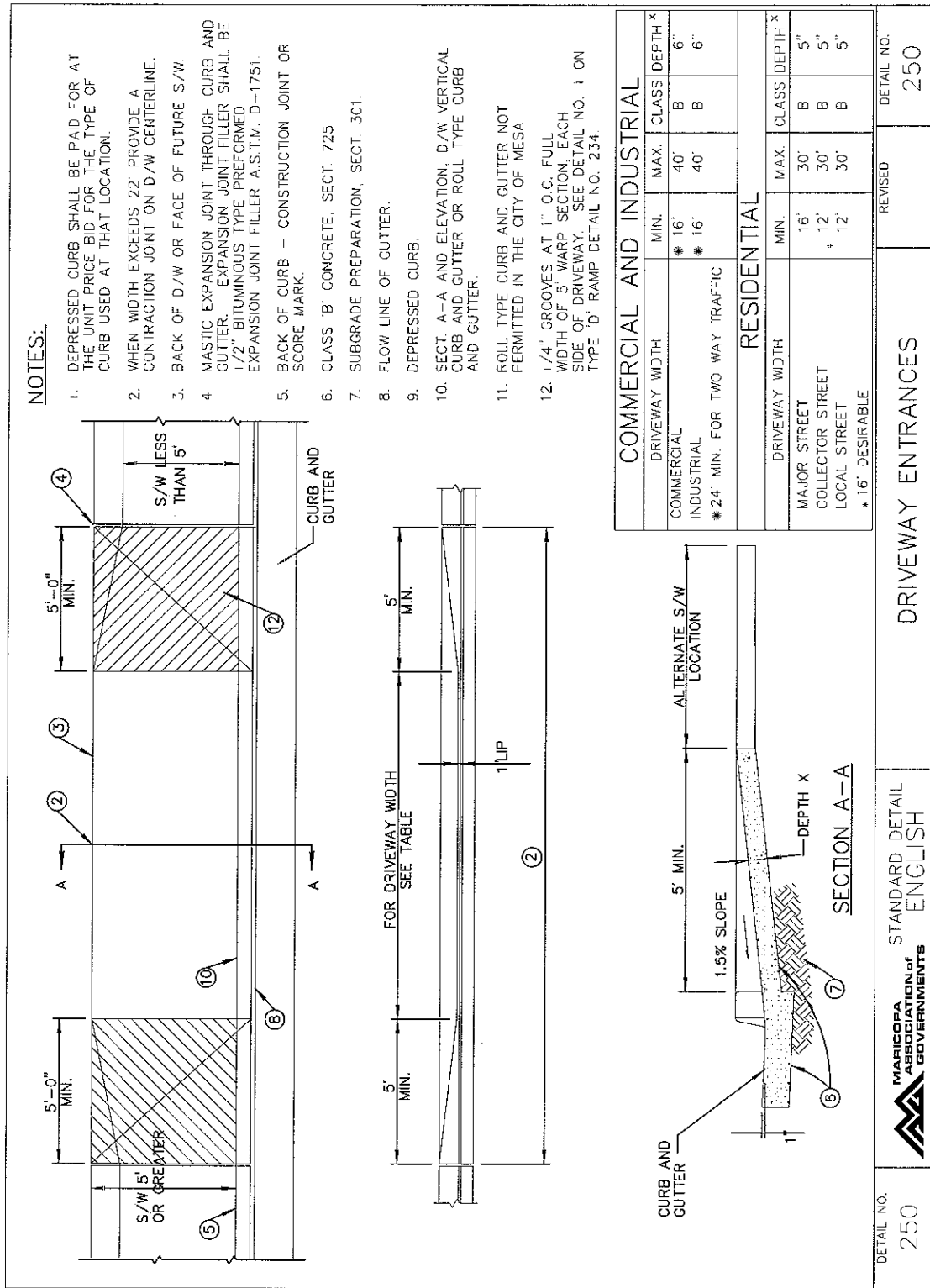
5820 S. EASTERN AVENUE, SUITE 200  
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SCALE: NOT TO SCALE

**FIGURE V-A-1**

DATE: 20 DEC 2005  
REV:





## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH



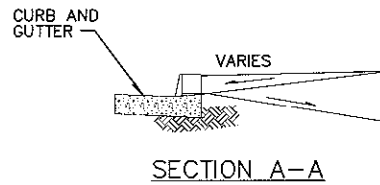
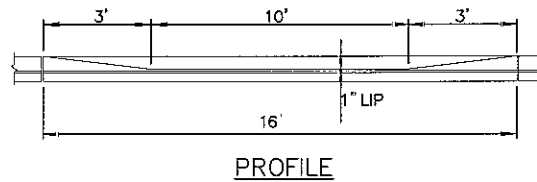
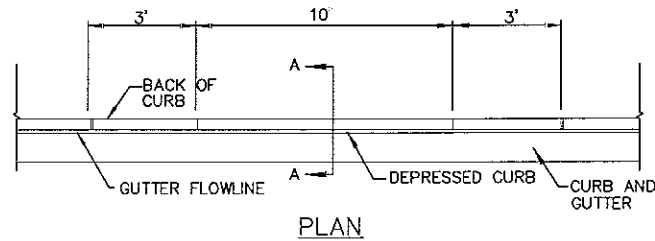
**Stanley Consultants** INC

5820 S. EASTERN AVENUE, SUITE 200  
LAS VEGAS NEVADA 89119  
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SCALE: NOT TO SCALE

**FIGURE V-A-2**

DATE: 20 DEC 2005  
REV:



# **CURB CUT FOR DRAINAGE** NTS

**RHODES HOMES ARIZONA, LLC**  
**GOLDEN VALLEY RANCH**

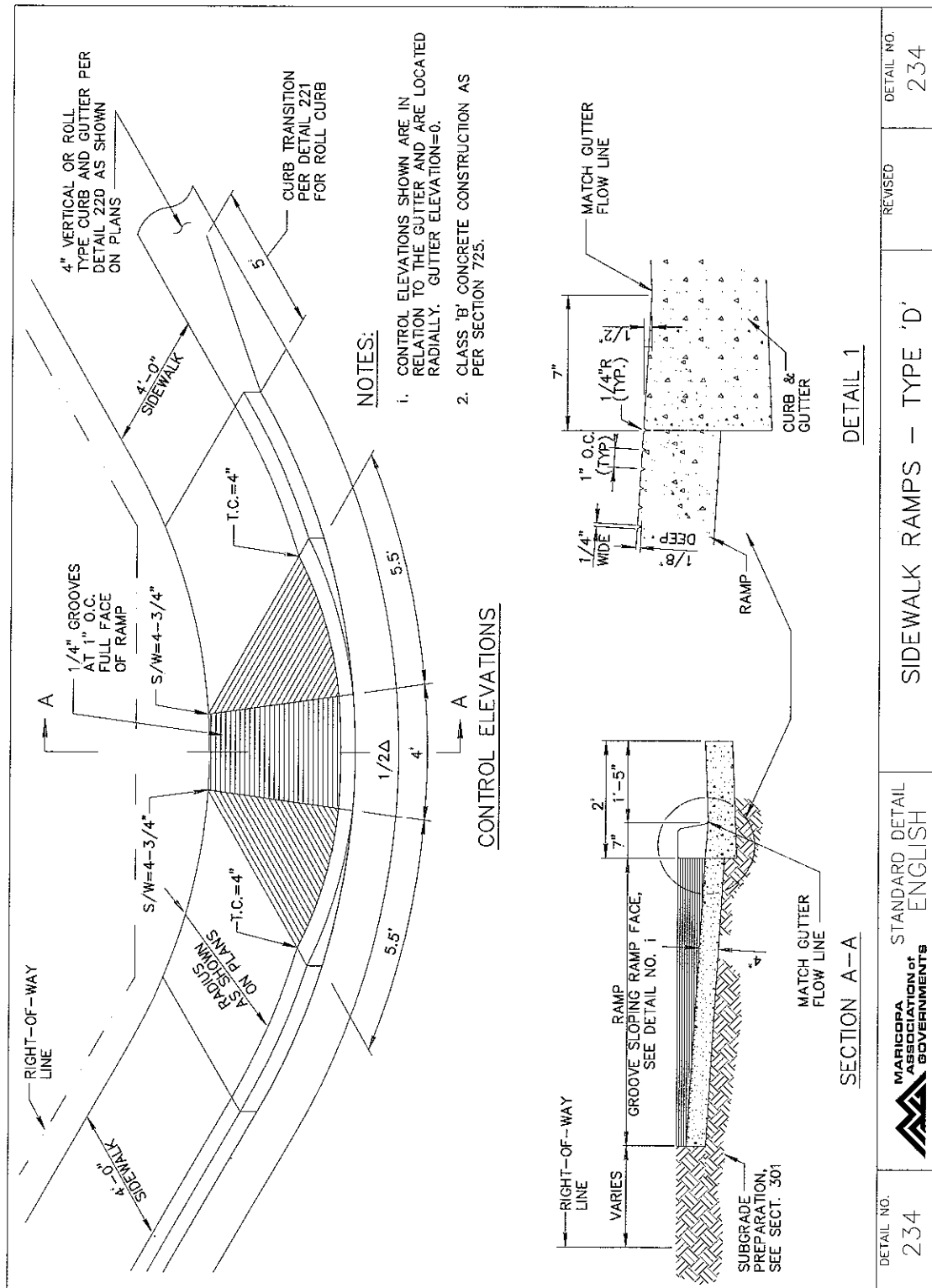


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 5820 S. EASTERN AVENUE, SUITE 200  
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SCALE: NOT TO SCALE

**FIGURE V-B**

DATE: 20 DEC 2005  
 REV:



## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH



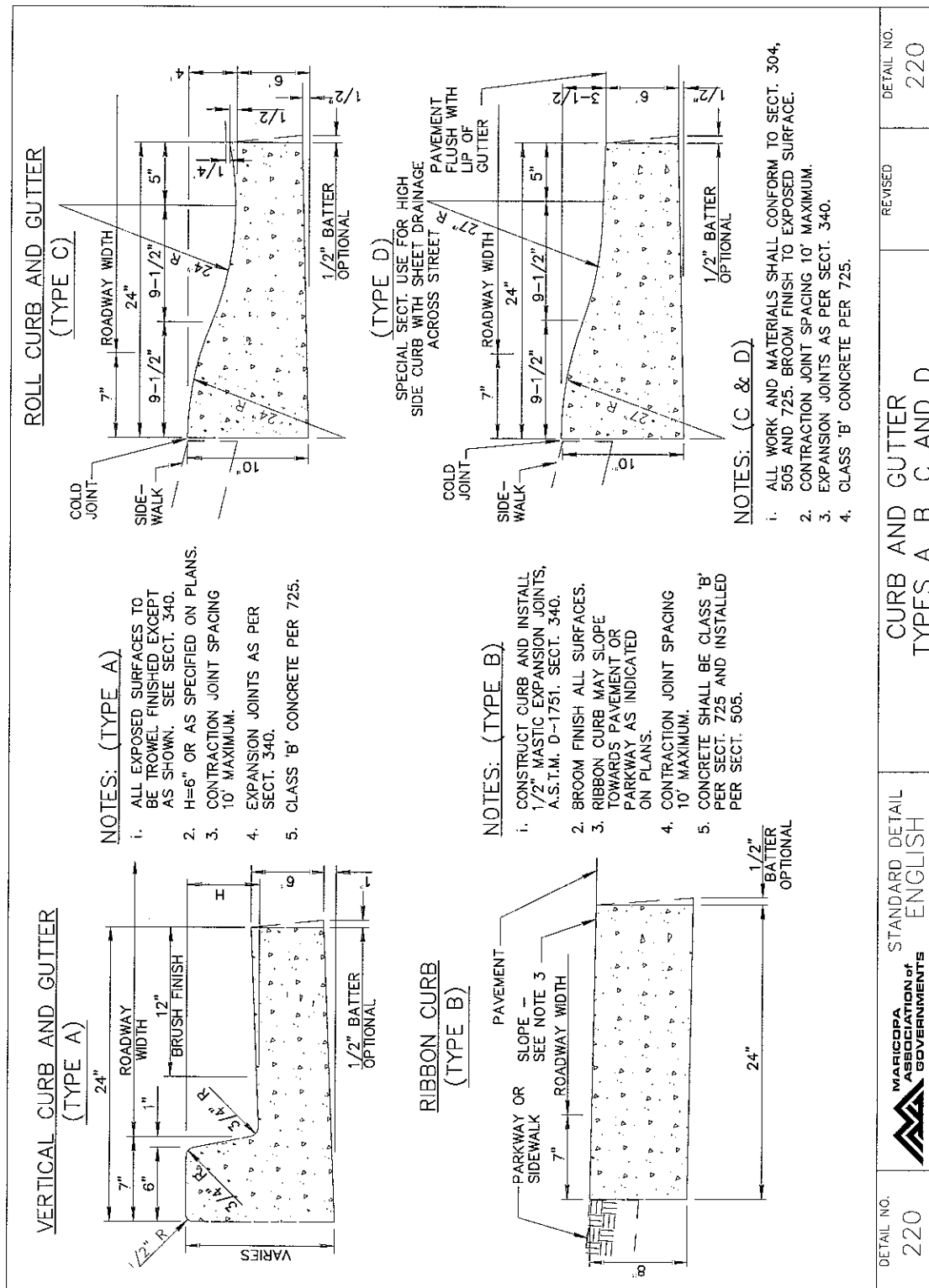
**Stanley Consultants INC.**

5820 S. EASTERN AVENUE, SUITE 200  
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SCALE: NOT TO SCALE

**FIGURE V-C**

DATE: 20 DEC 2005  
REV:



## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH



**Stanley Consultants INC.**

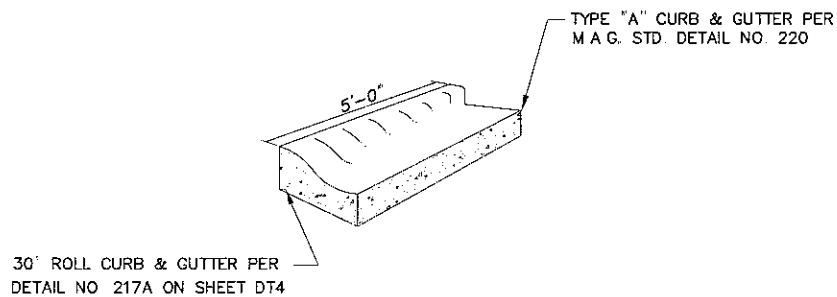
5820 S. EASTERN AVENUE, SUITE 200  
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SCALE: NOT TO SCALE

**FIGURE V-D-1**

DATE: 20 DEC 2005  
REV:





**TRANSITION FROM TYPE "A" CURB  
TO ROLL CURB AND GUTTER**  
NTS

**RHODES HOMES ARIZONA, LLC**  
**GOLDEN VALLEY RANCH**



**Stanley Consultants INC.**  
5820 S. EASTERN AVENUE, SUITE 200  
LAS VEGAS NEVADA 89119  
(702) 369-9396 Fax (702) 369-9793

SCALE: NOT TO SCALE

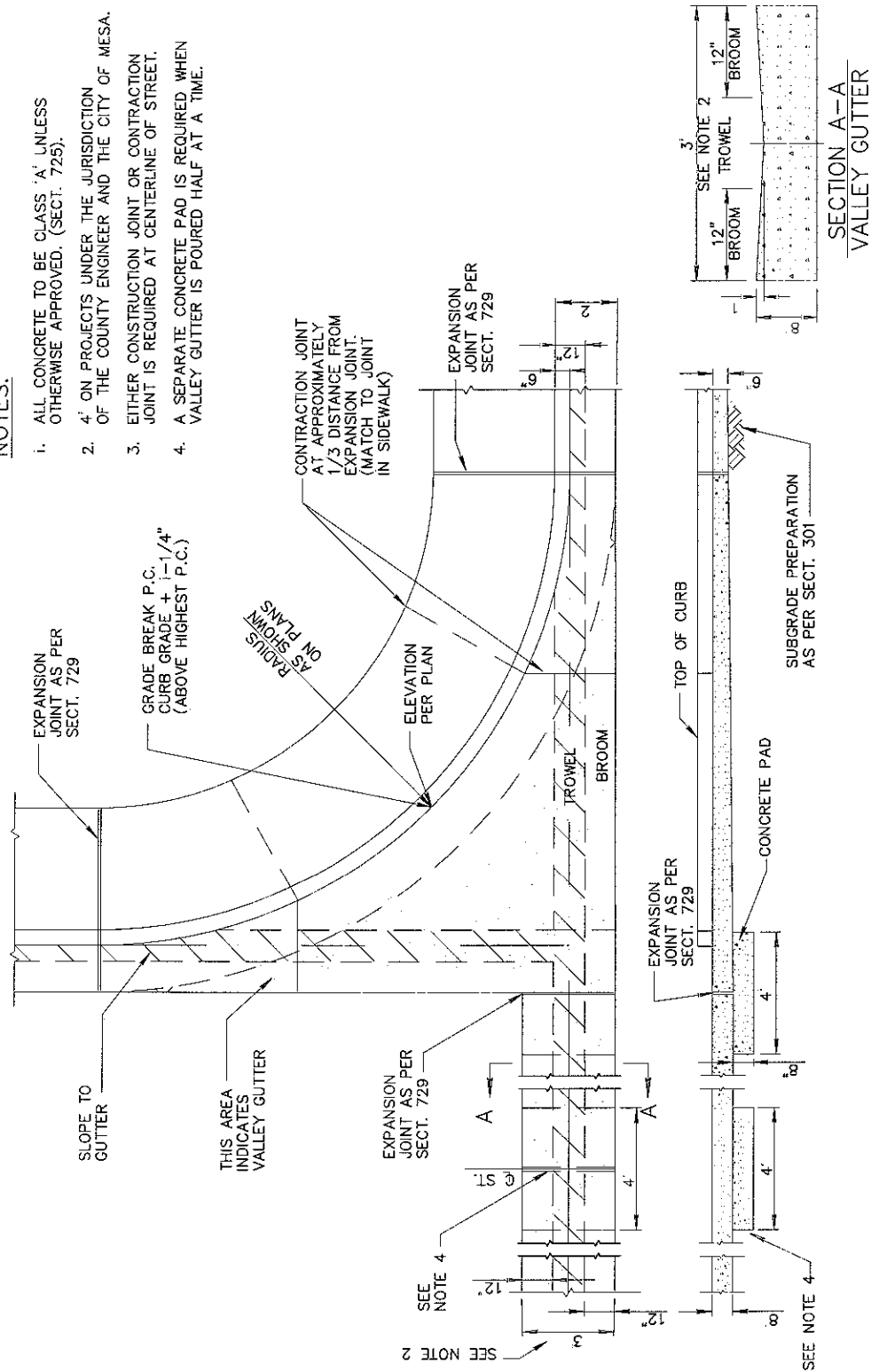
**FIGURE V-D-3**

DATE: 20 DEC 2005  
REV:



**NOTES:**

1. ALL CONCRETE TO BE CLASS 'A' UNLESS OTHERWISE APPROVED. (SECT. 725).
2. 4' ON PROJECTS UNDER THE JURISDICTION OF THE COUNTY ENGINEER AND THE CITY OF MESA.
3. EITHER CONSTRUCTION JOINT OR CONTRACTION JOINT IS REQUIRED AT CENTERLINE OF STREET.
4. A SEPARATE CONCRETE PAD IS REQUIRED WHEN VALLEY GUTTER IS POURED HALF AT A TIME.



STANDARD DETAIL  
ENGLISH

DETAIL NO.  
240

REVISED

DETAIL NO.  
240

VALLEY GUTTER

## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH



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LAS VEGAS NEVADA 89119  
(702) 369-9396 Fax (702) 369-9793

SCALE: NOT TO SCALE

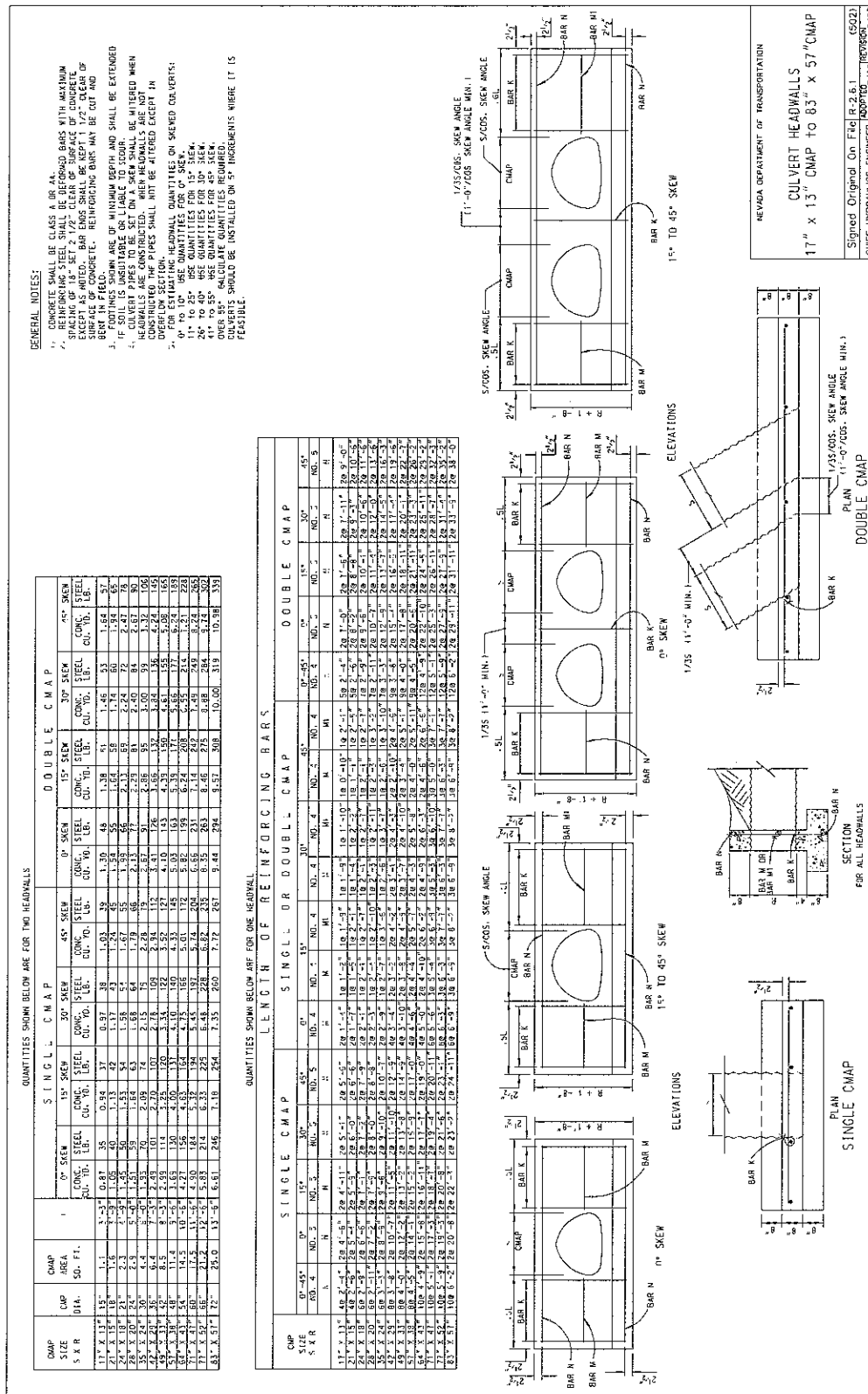
**FIGURE VI**

DATE: 20 DEC 2005  
REV:

ST-RH036277







RHODES HOMES ARIZONA, LLC  
GOLDEN VALLEY RANCH



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SCALE: NOT TO SCALE

FIGURE VII-B

DATE: 20 DEC 2005  
REV:

ST-RH036279



SPAN	HEIGHT	CUBIC YARDS OF CONCRETE AND POUNDS OF REINFORCING FOR TWO TYPE I HEADWALLS ①												TRIPLE BOX											
		SINGLE BOX						DOUBLE BOX						TRIPLE BOX						TRIPLE BOX					
		0° SKEW	15° SKEW	30° SKEW	45° SKEW	0° SKEW	15° SKEW	30° SKEW	45° SKEW	0° SKEW	15° SKEW	30° SKEW	45° SKEW	0° SKEW	15° SKEW	30° SKEW	45° SKEW	0° SKEW	15° SKEW	30° SKEW	45° SKEW	0° SKEW	15° SKEW	30° SKEW	45° SKEW
		CONC.	REINF.	CONC.	REINF.	CONC.	REINF.	CONC.	REINF.	CONC.	REINF.	CONC.	REINF.	CONC.	REINF.	CONC.	REINF.	CONC.	REINF.	CONC.	REINF.	CONC.	REINF.	CONC.	REINF.
1	1	5.6	353	6.4	476	7.2	583	8.9	739	7.7	508	8.5	597	9.5	700	11.8	910	11.8	842	12.3	896	14.4	1045	17.6	1260
2	1	7.6	609	8.0	644	9.6	774	11.6	946	9.7	726	10.1	767	12.0	912	14.6	1119	11.9	842	12.3	896	14.4	1045	17.6	1260
3	1	9.6	705	10.2	782	11.8	942	15.0	1238	11.7	825	12.4	908	14.3	1095	15.0	1414	13.9	842	12.3	896	14.4	1045	17.6	1260
4	1	6.0	418	6.8	504	7.6	595	9.4	779	9.3	600	9.2	639	10.3	817	12.7	1062	12.6	842	12.3	896	14.4	1045	17.6	1260
5	1	7.9	637	8.3	673	10.0	807	12.1	985	10.3	821	10.8	869	12.7	1032	15.5	1270	12.6	842	12.3	896	14.4	1045	17.6	1260
6	1	9.9	730	10.6	809	12.2	974	15.4	1278	12.3	917	13.0	1009	15.0	1203	18.8	1566	14.7	1103	15.5	1198	17.1	1411	22.1	1823
7	1	12.4	983	12.6	1106	15.5	1505	20.4	2158	14.8	1173	15.0	1310	18.3	1740	23.7	2449	17.2	1361	17.5	1502	21.0	1951	27.1	2708
8	1	15.3	1400	16.0	1601	19.8	2155	26.5	3104																
9	1	6.3	442	7.1	532	8.0	626	9.9	820																
10	1	8.3	665	7.7	702	10.4	839	12.6	1025																
11	1	10.3	756	10.9	837	12.6	1006	15.3	1319																
12	1	12.0	1011	12.9	1137	15.9	1544	20.8	2209																
13	1	15.6	1432	16.3	1637	20.2	2199	27.0	3161																
14	1	6.7	467	7.5	559	8.4	658	10.4	861	7.8	817	10.7	1064	11.8	1109	14.5	1268								
15	1	8.6	683	9.1	731	10.8	872	13.1	1065	11.8	1045	12.3	1078	14.3	1238	17.3	1475	14.9	1320	15.5	1365	17.8	1568	21.4	1658
16	1	10.6	782	11.7	864	13.0	1038	16.4	1360	13.8	1137	14.5	1216	16.6	1405	20.6	1773	17.0	1414	17.6	1501	20.2	1720	25.0	2159
17	1	13.1	1039	13.3	1169	16.3	1983	21.3	2261	16.4	1401	16.6	1525	19.9	1958	25.6	2676	19.6	1677	19.9	1814	23.6	2276	29.9	3065
18	1	16.0	1464	16.7	1673	20.6	2242	27.5	3219	19.2	1824	21.0	2133	24.3	2620	31.8	3637	22.5	2107	24.4	2428	28.0	2946	36.1	4029
19	1	17.9	1904	20.2	2254	24.2	2778	33.1	3938	21.2	2267	23.6	2582	27.9	3051	39.5	4359	24.5	2562	27.0	2880	31.7	3381	43.9	4153
20	1	7.2	515	8.2	612	9.2	721	11.4	942	11.2	1111	12.2	1227	13.6	1383	16.8	1754								
21	1	3.3	749	9.8	789	11.6	936	14.1	1144	13.2	1348	13.8	1396	16.1	1608	19.6	1939								
22	1	11.3	833	12.0	920	13.8	1101	17.4	1441	15.2	1434	16.1	1531	18.4	1770	23.0	2239	19.2	1876	20.1	1985	22.9	2274	28.5	2857
23	1	13.8	1093	14.0	1233	17.1	1661	22.3	2365	17.8	1697	18.1	1775	21.7	2187	26.9	3165	21.8	2141	22.2	2219	26.3	2666	33.6	3786
24	1	16.6	1528	17.4	1745	21.4	2329	29.4	3334	20.7	2135	21.6	2359	26.1	3006	34.1	4157	24.7	2582	25.8	2821	30.7	3519	39.8	4161
25	1	18.6	1978	20.9	2314	25.0	2870	34.1	4054	22.7	2297	25.2	2935	29.7	3544	39.9	4860	26.8	3037	29.4	3399	34.4	4057	45.6	5146
26	1	23.2	2117	25.1	2482	31.1	3244	41.4	4597																
27	1	28.5	3352	31.6	3558	38.6	4397	51.7	5882	33.7	3967	36.0	4217	43.5	5017	57.6	6703	37.8	4422	40.3	4688	48.3	5598	63.5	7335
28	1	10.0	804	10.5	846	12.4	1001	15.1	1224	14.6	1732	15.2	1806	17.6	2090	21.5	2449								
29	1	12.0	884	12.7	975	14.6	1165	18.4	1522	16.8	1813	17.5	1941	20.0	2247	24.9	2849								
30	1	14.5	1148	14.7	1286	17.9	1738	23.3	2469	19.2	2086	19.6	2244	23.3	2817	29.9	3799	23.9	2744	24.4	2922	28.7	3576	36.5	4133
31	1	17.3	1591	18.1	1817	22.2	2416	29.4	3449	22.1	2531	23.0	2775	27.7	3497	36.1	4782	26.8	3195	27.9	3460	33.1	4261	42.8	5119
32	1	18.3	1945	21.8	2404	25.8	2962	35.1	4171	23.1	2084	26.7	3396	31.3	4048	41.8	5506	27.8	3554	31.6	4094	36.8	4830	48.6	6146
33	1	23.9	2181	26.1	2553	31.9	3327	47.4	4704	28.7	3123	31.1	3522	37.5	4414	49.2	6042	33.5	3796	36.1	4218	43.0	5191	56.1	6584
34	1	30.2	3429	32.3	3680	39.4	4488	52.7	6003	35.0	4373	37.4	4646	45.1	5580	59.6	7344	39.9	5049	42.4	5341	50.7	6353	66.5	8289
35	1	42.8	5137	47.2	5372	56.4	6075	80.1	8124	47.8	6087	52.3	6340	62.2	7141	81.2	9470	52.7	6768	57.5	7045	67.9	7930	94.7	10720

① - QUANTITIES SHOWN ARE FOR HEADWALLS AT THE INLET AND OUTLET

NEVADA DEPARTMENT OF TRANSPORTATION

ESTIMATE OF QUANTITIES  
TYPE I HEADWALLSSigned Original On File B-20.15 (5022)  
CHIEF BRIDGE ENGINEER 11/70  
REVISION 3/87RHODES HOMES ARIZONA, LLC  
GOLDEN VALLEY RANCH

Stanley Consultants INC.

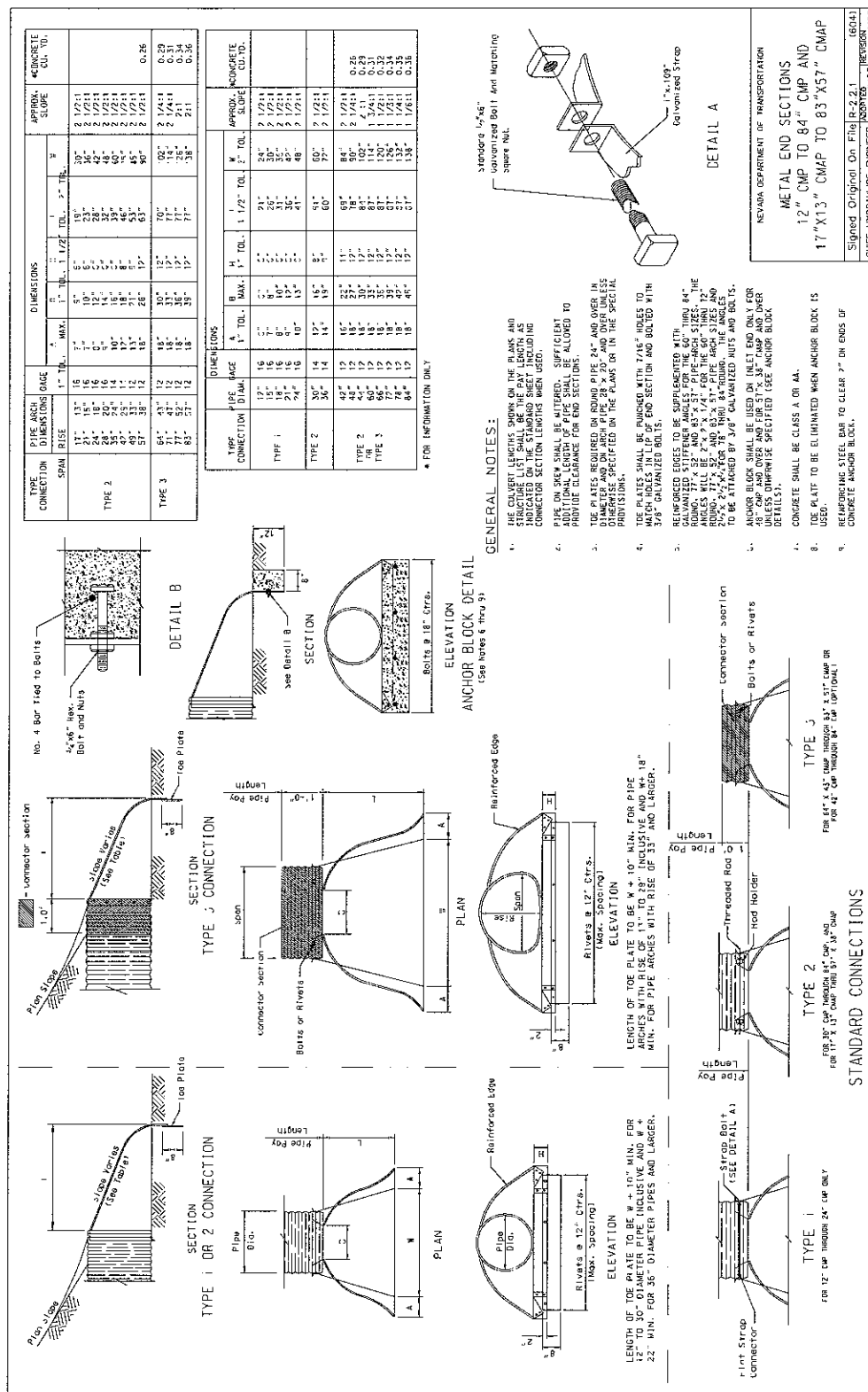
5820 S. EASTERN AVENUE, SUITE 200  
LAS VEGAS NEVADA 89119  
(702) 369-9396 Fax (702) 369-9793

SCALE: NOT TO SCALE

FIGURE VII-D

DATE: 20 DEC 2005  
REV:

ST-RH036281



RHODES HOMES ARIZONA, LLC  
GOLDEN VALLEY RANCH



**Stanley Consultants INC.**  
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LAS VEGAS, NEVADA 89119  
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SCALE: NOT TO SCALE

FIGURE VII-E

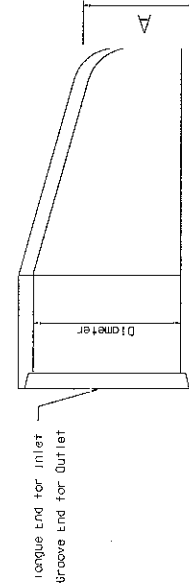
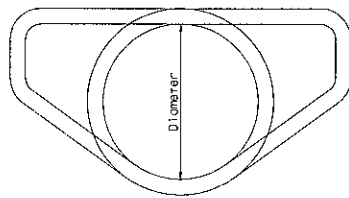
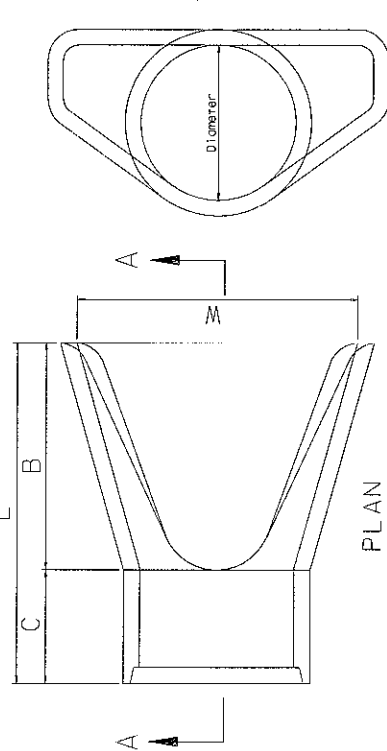
DATE: 20 DEC 2005  
REV:

**GENERAL NOTES:**

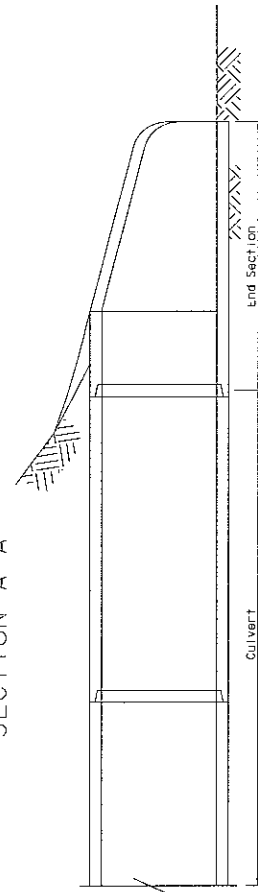
1. CLASS AND TYPE OF CONCRETE SHALL BE AS SPECIFIED FOR REINFORCED CONCRETE PIPE.
2. STRUCTURAL DESIGN OF END SECTION SHALL CONFORM TO THAT OF STANDARD REINFORCED CONCRETE CULVERT PIPE.
3. LENGTH OF PIPE SHOWN ON THE DESIGN PLANS DOES NOT INCLUDE CONNECTOR SECTION (LENGTH C).
4. CONTACT HYDRAULICS ENGINEER FOR SIZES NOT LISTED.

DIAMETER	WEIGHT	A	B	C*	L	W
18"	670	9"	2'-1"	2'-1"	4'-3"	3'-0"
24"	1300	9 1/2"	3'-8"	2'-6"	6'-0"	5'-0"
30"	1850	11-5/8"	4'-5"	3'-4"	8'-1"	6'-0"
36"	2400	13-1/2"	5'-2"	4'-1"	10'-0"	7'-0"
42"	2950	15-1/2"	6'-0"	5'-1"	12'-0"	8'-0"
48"	3500	17'-0"	6'-8"	5'-8"	14'-0"	9'-0"
54"	4050	18'-6"	7'-6"	6'-6"	16'-0"	10'-0"

\* For Reference Only



SECTION A-A



NEVADA DEPARTMENT OF TRANSPORTATION

RCP END SECTION  
18" RCP TO 54" RCP

Signed Original On File	R-2.3.1	(603)
CHIEF HYDRAULICS ENGINEER	ADOPTED 1/75	REVISION 12/04

## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH

**Stanley Consultants INC.**

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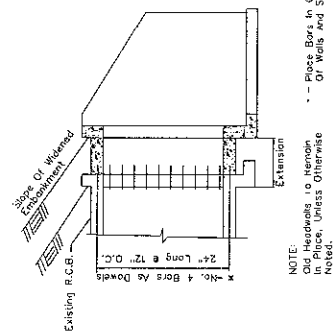
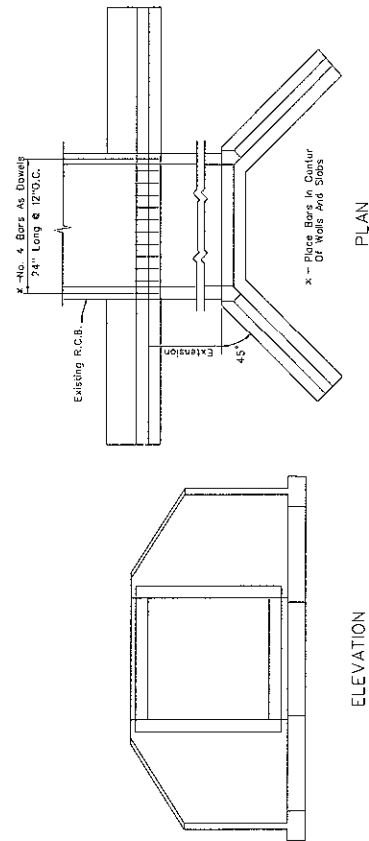
SCALE: NOT TO SCALE

**FIGURE VII-F**

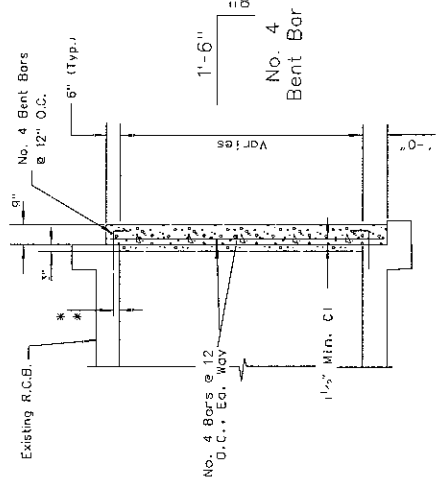
DATE: 20 DEC 2005  
REV:

**NOTES:**

1. FOR GENERAL NOTES SEE SHEET B-20.1.1.
2. DOWEL HOLES SHALL BE DRILLED 12" INTO EXISTING CONCRETE. DIAMETER OF HOLE SHALL BE 1/4" LARGER THAN DIAMETER OF BAR. HOLE MAY BE INCLINED NO MORE THAN 5° OFF THE HORIZONTAL. DOWELS SHALL BE EPOXYED INTO CLEAN HOLES. EPOXY SHALL CONFORM TO THE REQUIREMENT OF SECTION 728 OF THE STANDARD SPECIFICATIONS.

**PART LONGITUDINAL SECTION****R.C.B. CULVERT EXTENSION**

\* 3"-3' To Center Of Hole.

**SECTION**

**METHOD OF PLUGGING R.C.B.**  
NOTE: Width And Height Varies.

NEVADA DEPARTMENT OF TRANSPORTATION	
<b>METHOD OF EXTENDING R.C.B. CULVERTS</b>	
Started Original On File B-20.1.1	(502)
CHIEF BRIDGE ENGINEER	ADOPTED 11/20/05

## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH


**Stanley Consultants INC**

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LAS VEGAS NEVADA 89119  
(702) 369-9396 Fax (702) 369-9793

SCALE: NOT TO SCALE

**FIGURE VII-G**

DATE: 20 DEC 2005  
REV:



GENERAL NOTES:

- CONCRETE SHALL BE CLASS 1 OR 2A.
- REINFORCING STEEL SHALL BE DEFORMED BARS WITH MAXIMUM SPACING OF 18" SET 2 1/2" CLEAR OF SURFACE OF CONCRETE. BARS IN CONCRETE SHALL BE CUT AND BENT IN FIELD.
- ALL BARS SHALL BE WELDED OR WELDED TO EACH OTHER WHEN SPACING IS 18" OR LESS. ALL BARS SHALL BE EXTENDED WHEN HEADWALLS ARE CONSTRUCTED. WHEN HEADWALLS ARE NOT CONSTRUCTED, ALL BARS SHALL BE EXTENDED TO THE DOWNSTREAM END OF THE HEADWALL SECTION.
- FOR ESTIMATING HEADWALL QUANTITIES ON SKEWED CULVERTS:
  - 1. TO 25° USE QUANTITIES FOR 15° SKEW.
  - 25° TO 40° USE QUANTITIES FOR 30° SKEW.
  - 40° TO 55° USE QUANTITIES FOR 45° SKEW.
  - OVER 55° CALCULATE QUANTITIES REQUIRED.
- FEASIBLE: DIMENSIONS X, Y, L, AND P TO REMAIN CONSTANT REGARDLESS OF SKEW ANGLE.
- MINOR VARIATIONS IN WALL THICKNESS DUE TO CLASS OF PIPE USED.

QUANTITIES SHOWN BELOW ARE FOR ONE HEADWALL.

LENGTH OF REINFORCING BARS

NO.	15° SKEW		30° SKEW		45° SKEW		60° SKEW		75° SKEW		90° SKEW	
	CONC.	STEEL	CONC.	STEEL	CONC.	STEEL	CONC.	STEEL	CONC.	STEEL	CONC.	STEEL
1	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
2	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
3	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
4	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
5	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
6	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
7	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
8	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
9	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
10	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
11	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
12	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
13	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
14	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
15	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
16	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
17	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
18	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
19	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
20	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
21	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
22	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
23	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
24	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00
25	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00	12.00	1.00

**RHODES HOMES ARIZONA, LLC  
GOLDEN VALLEY RANCH**



**Stanley Consultants INC.**  
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(702) 369-9396 Fax (702) 369-9793

SCALE: NOT TO SCALE

FIGURE VII-H

DATE: 20 DEC 2005  
REV:



## GENERAL NOTES:

1. CONCRETE SHALL BE CLASS A OR AA.
2. REINFORCING STEEL SHALL BE DEFORMED BARS WITH MAXIMUM SPACING OF 18" OR 24" WHICHEVER IS SMALLER. BARS SHALL BE KEPT 1/2" CLEAR OF SURFACE OF CONCRETE. REINFORCING BARS MAY BE CUT AND BENT TO FIT.
3. IF SOIL IS UNSUITABLE OR INHUMAN DEPTH AND SHALL BE EXTENDED TO 12" BELOW THE BOTTOM OF THE PIPE.
4. CURVE PIPES TO BE SET ON A SKEW SHALL BE MITERED WHEN CONSTRUCTED. TIP PIPES SHALL NOT BE MITERED EXCEPT IN OVERFLOW SECTION.
5. DIMENSIONS SHALL BE IN FEET AND INCHES. FRACTIONS SHALL BE IN 1/2" INCHES.
6. FOR ESTIMATING HEADWALL QUANTITIES ON SKEWED CULVERTS:
  - a. USE QUANTITIES FOR 0° SKEW.
  - b. 1° TO 10° USE QUANTITIES FOR 0° SKEW.
  - c. 11° TO 40° USE QUANTITIES FOR 30° SKEW.
  - d. 41° TO 55° USE QUANTITIES FOR 45° SKEW.
  - e. OVER 55° CALCULATE QUANTITIES REQUIRED FOR 60° SKEW.
7. HEADWALLS SHOULD BE INSTALLED ON 4" INCHES WHERE IT IS FEASIBLE.

## QUANTITIES SHOWN BELOW ARE FOR TWO HEADWALLS.

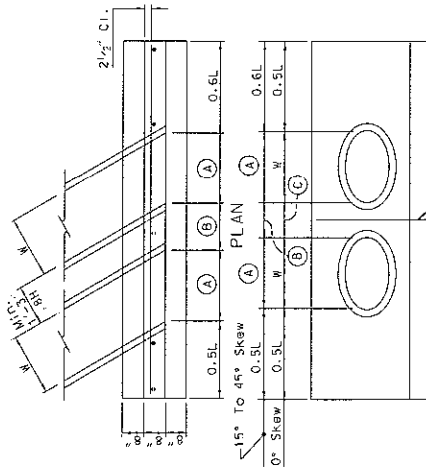
OVAL RCP SIZE	OVAL RCP AREA	SINGLE OVAL RCP				DOUBLE OVAL RCP				OVAL RCP				OVAL RCP				n
		0° SKEW	15° SKEW	30° SKEW	45° SKEW	0° SKEW	15° SKEW	30° SKEW	45° SKEW	0° SKEW	15° SKEW	30° SKEW	45° SKEW	0° SKEW	15° SKEW	30° SKEW	45° SKEW	
23" x 14"	1.92	1.37	1.57	1.43	1.52	1.61	1.50	1.63	1.54	1.71	2.08	1.77	2.18	1.80	2.40	1.86	10.4%	
30" x 18"	3.21	2.50	2.85	2.50	2.85	3.15	3.45	3.15	3.45	3.75	4.20	3.75	4.20	4.50	5.10	4.50	11.1%	
36" x 24"	5.00	3.90	4.50	3.90	4.50	4.95	5.55	4.95	5.55	6.00	6.75	6.00	6.75	7.20	8.10	7.20	11.1%	
42" x 27"	6.39	4.95	5.65	4.95	5.65	6.15	6.90	6.15	6.90	7.35	8.25	7.35	8.25	8.70	9.90	8.70	11.1%	
48" x 30"	8.10	6.30	7.20	6.30	7.20	7.80	8.85	7.80	8.85	9.45	10.65	9.45	10.65	11.25	12.60	11.25	11.1%	
54" x 36"	12.15	9.45	10.80	9.45	10.80	11.70	13.35	11.70	13.35	14.25	16.05	14.25	16.05	16.95	19.05	16.95	11.1%	
60" x 42"	16.80	13.20	15.00	13.20	15.00	16.20	18.45	16.20	18.45	19.50	22.20	19.50	22.20	23.25	26.40	23.25	11.1%	

## QUANTITIES SHOWN BELOW ARE FOR ONE HEADWALL.

OVAL PIPE SIZE	SINGLE OVAL RCP				LENGTH OF REINFORCING BARS				DOUBLE OVAL RCP				R.C.P. n																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	0°-15° NO.5	15°-30° NO.5	30°-45° NO.5	45° NO.5	0° NO.4	15° NO.4	30° NO.4	45° NO.4	0°-15° NO.4	15°-30° NO.4	30°-45° NO.4	45° NO.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
23 X 14.0	1.286	1.374	1.207	2.297	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.281	1.111	1.811	1.321	1.2

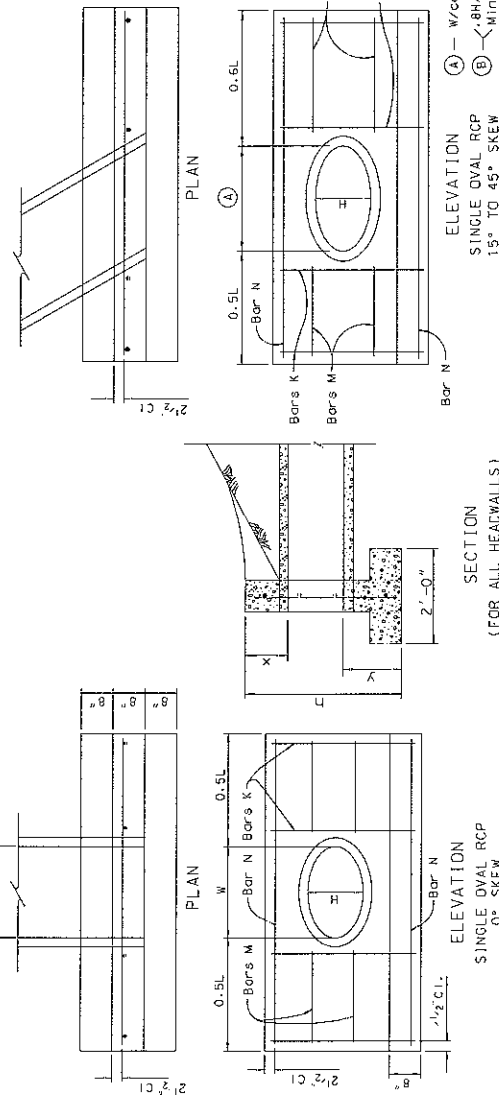
## LENGTH OF REINFORCING BARS

OVAL RCP SIZE	SINGLE OR DOUBLE OVAL RCP																DOUBLE OVAL RCP				n
	0°				15°				30°				45°				0°-45°		30°-45°		
	No. 5	No. 5	No. 5	No. 5	No. 4	No. 4	No. 4	No. 4	No. 4	No. 4	No. 4	No. 4	No. 4	No. 4	No. 4	No. 4	No. 3	No. 3			
W & H	15"	15"	15"	15"	24"	24"	24"	24"	30"	30"	30"	30"	36"	36"	36"	36"	42"	42"			
23" x 14"	1.37	1.57	1.43	1.52	1.61	1.50	1.63	1.54	1.71	2.08	1.77	2.18	1.80	2.40	1.86	10.4%	10	10			
30" x 18"	2.50	2.85	2.50	2.85	3.15	3.45	3.15	3.45	3.75	4.20	3.75	4.20	4.50	5.10	4.50	11.1%	10	10			
36" x 24"	3.90	4.50	3.90	4.50	4.95	5.55	4.95	5.55	6.00	6.75	6.00	6.75	7.20	8.10	7.20	11.1%	10	10			
42" x 27"	4.95	5.65	4.95	5.65	6.15	6.90	6.15	6.90	7.35	8.25	7.35	8.25	8.70	9.90	8.70	11.1%	10	10			
48" x 30"	6.30	7.20	6.30	7.20	7.80	8.85	7.80	8.85	9.45	10.65	9.45	10.65	11.25	12.60	11.25	11.1%	10	10			
54" x 36"	9.45	10.80	9.45	10.80	11.70	13.35	11.70	13.35	14.25	16.05	14.25	16.05	16.95	19.05	16.95	11.1%	10	10			
60" x 42"	13.20	15.00	13.20	15.00	16.20	18.45	16.20	18.45	19.50	22.20	19.50	22.20	23.25	26.40	23.25	11.1%	10	10			



NOTE: For Reinforcing Not Shown See Single Culvert Headwall.

REINFORCING HEADWALLS  
23" x 14" OVAL RCP TO 60" x 38" OVAL RCP  
Signed Original On File R-2.7.1 (502)  
CHIEF HYDRAULICS ENGINEER 8/68 12/94



SECTION (FOR ALL HEADWALLS)

## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH



**Stanley Consultants INC.**

5820 S. EASTERN AVENUE, SUITE 200  
LAS VEGAS NEVADA 89119  
(702) 369-9396 Fax (702) 369-9793

SCALE: NOT TO SCALE

**FIGURE VII-I**

DATE: 20 DEC 2005  
REV:

QUANTITIES SHOWN BELOW ARE FOR TWO HEADWALLS.

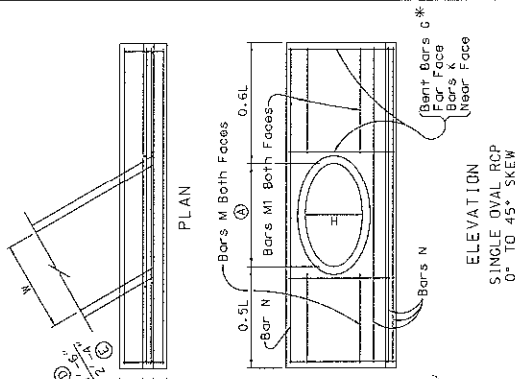
OVAL RCP SIZE W X H	SINGLE OVAL RCP				DOUBLE OVAL RCP			
	0° SKEW	15° SKEW	30° SKEW	45° SKEW	0° SKEW	15° SKEW	30° SKEW	45° SKEW
68"x43" 54"	16.62	21.19	22.81	24.42	32.24	41.82	44.62	47.42
68"x43" 60"	20.55	26.19	28.05	29.91	40.30	51.45	54.30	57.15
91"x58" 72"	29.71	37.11	39.61	42.11	56.42	71.05	74.05	77.05

QUANTITIES SHOWN BELOW ARE FOR ONE HEADWALL.

OVAL RCP SIZE W X H	SINGLE OVAL RCP				DOUBLE OVAL RCP			
	0° SKEW	15° SKEW	30° SKEW	45° SKEW	0° SKEW	15° SKEW	30° SKEW	45° SKEW
68"x43" 54"	8.31	10.59	11.40	12.21	16.12	20.91	22.30	23.70
68"x43" 60"	10.27	13.09	14.00	14.91	20.15	25.72	27.15	28.55
91"x58" 72"	14.85	18.55	19.80	21.05	29.70	37.52	39.60	41.70

## GENERAL NOTES:

- CONCRETE SHALL BE CLASS A OR M.
- REINFORCING STEEL SHALL BE DEFORMED BARS WITH MAXIMUM SPACING OF 18" SET 2'-0" CLEAR OF SURFACE OF CONCRETE. BARS SHALL BE LAPPED WITH 1'-0" MINIMUM LAP. BARS BENT IN FIELD SHALL BE CUT AND BENT IN FIELD.
- COATINGS SHALL BE OF MINIMUM THICKNESS AND SHALL BE EXTENDED TO THE FULL LENGTH OF THE PIPE.
- HEADWALLS ARE TO BE CONSTRUCTED. WHEN HEADWALLS ARE NOT CONSTRUCTED, THE HEADWALLS SHALL NOT BE MITERED EXCEPT IN OVERFLOW SECTION. PIPES SHALL NOT BE MITERED EXCEPT IN OVERFLOW SECTION.
- DIMENSIONS X, Y, L, AND N TO REMAIN CONSTANT REGARDLESS OF MINOR VARIATIONS IN WALL THICKNESS DUE TO CLASS OF PIPE USED.
- MINOR VARIATIONS IN WALL THICKNESS DUE TO CLASS OF PIPE USED.
- 0° TO 10° USE QUANTITIES FOR 0° SKEW.
- 11° TO 25° USE QUANTITIES FOR 15° SKEW.
- 26° TO 40° USE QUANTITIES FOR 30° SKEW.
- 41° TO 55° USE QUANTITIES FOR 45° SKEW.
- OVER 55° CALCULATE QUANTITIES REQUIRED.
- CULVERTS SHOULD BE INSTALLED IN 5° INCREMENTS WHERE IT IS FEASIBLE.



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11° TO 25° USE QUANTITIES FOR 15° SKEW.

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41° TO 55° USE QUANTITIES FOR 45° SKEW.

OVER 55° CALCULATE QUANTITIES REQUIRED.

CULVERTS SHOULD BE INSTALLED IN 5° INCREMENTS WHERE IT IS FEASIBLE.

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## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH



**Stanley Consultants INC.**

5820 S. EASTERN AVENUE, SUITE 200  
LAS VEGAS NEVADA 89119  
(702) 369-9396 Fax (702) 369-9793

SCALE: NOT TO SCALE

**FIGURE VII-J**

DATE: 20 DEC 2005  
REV:

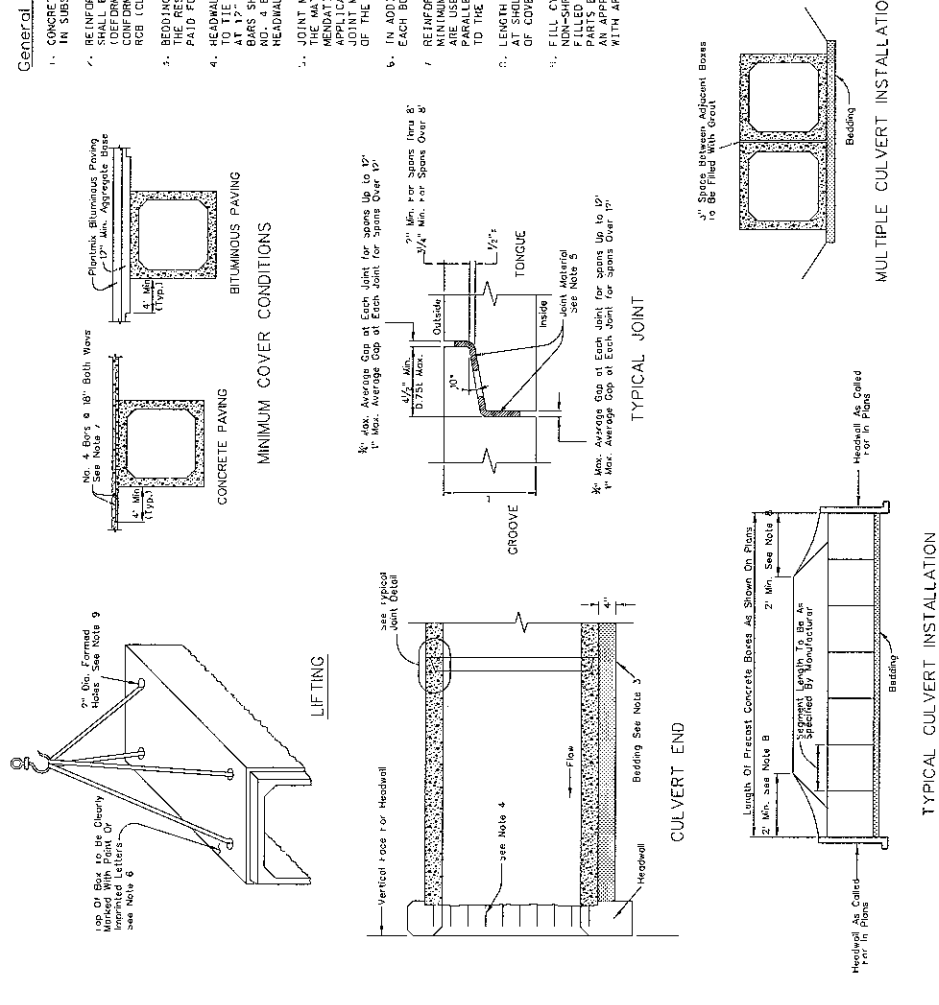
General Notes:

1. CONCRETE SHALL BE AS SPECIFIED IN AASHTO M265 OR M273 (ASTM C1433), AS MODIFIED IN SUBSECTION 502.03.24.
2. REINFORCING STEEL SHALL BE AASHTO M31 (ASTM A615) GRADE 60, WELDED WIRE FABRIC (CONFORMED WIRE), REINFORCING STEEL IN THE TOP SLAB SHALL HAVE AN EPOXY COATING CONFORMING TO AASHTO M284 (ASTM D3963) WHEN THERE IS 6" OR LESS OF COVER ON THE TOP (CLARK COUNTRY EXCLUDED).
3. BEDDING MATERIAL SHALL BE GRANULAR BACKFILL OR TYPE 2 CLASS 8 AGGREGATE MEETING THE RESISTIVITY REQUIREMENTS FOR GRANULAR BACKFILL. BEDDING MATERIAL WILL BE PAID FOR AS GRANULAR BACKFILL.
4. HEADWALL DETAILS SHALL BE AS SHOWN IN THE STANDARD PLANS. EXPOSED REINFORCEMENTS TO TIE CAST-IN-PLACE HEADWALL TO PRECAST BOX SHALL CONSIST OF EITHER NO. 4 BARS AT 12" SPACINGS OR EXPOSURE OF THE PRECAST BOX WELDED WIRE FABRIC. THE NO. 2 BARS SHALL BE CAST A MINIMUM OF 18" INTO THE PRECAST BOX SEDIMENT. BOTH THE WELDED WIRE FABRIC AND THE WELDED WIRE FABRIC SHALL EXTEND INTO HEADWALL TO 2' CLEAR OF THE HEADWALL FACE.
5. JOINT MATERIAL SHALL BE A. PREFORMED JOINT MATERIAL (ASTM M198 TYPE B). B. JOINT MATERIAL SHALL BE AASHTO M265 OR M273 (ASTM C1433) TYPE 1. C. JOINT REINFORCEMENT SHALL BE DOUBLE APPLICATION OF JOINT MATERIAL. SHEET PILING SHALL BE DOUBLE APPLICATION TO THE TONGUE AND THE OTHER TO THE GROOVE. THE MINIMUM SIZE OF JOINT MATERIAL SHALL BE 1" X 2". ANY JOINT MATERIAL EXTRUDING FROM THE INTERIOR OF THE JOINT SHALL BE REMOVED FLUSH WITH THE BOX WALL.
6. IN ADDITION TO THE MARKINGS REQUIRED BY THE AASHTO AND ASTM SPECIFICATIONS, MARK EACH BOX SECTION WITH THE APPROPRIATE WIDTH CONTRACT NUMBER.
7. REINFORCING STEEL SHALL EXTEND FULL WIDTH OF CONCRETE PAVEMENT AND SHALL HAVE A MINIMUM CLEARANCE OF 1" ON THE BOTTOM IN AREAS OF EXISTING WHERE HOLE SAILS ARE USED. THE REINFORCING SHALL BE EPOXY COATED. REINFORCING IS TO BE PLACED PARALLEL TO THE CENTERLINE OF ROAD FOR LONGITUDINAL REINFORCEMENT AND PARALLEL TO THE PRECAST BOX FOR TRANSVERSE REINFORCEMENT.
8. LENGTH OF CULVERT SHALL BE INCREASED AS FOLLOWS: 1. TO EACH END WHEN COVER AT SHOULDER IS 0' TO 5', AND AN ADDITIONAL 1' TO EACH END FOR EACH SUCCEEDING 5' OF COVER OR PORTION THEREOF.
9. FULL CYLINDRICAL LIFTING HOLES (LOCATED BY MANUFACTURER) WITH AN APPROVED EPOXY NON-SHRINK GROUT. HOLES WITH AN APPROVED CONICAL SHAPE FOR THE BOTTOM 3" MAY BE FILLED WITH A CONCRETE ORBIT COMPOSED OF ONE PART BY VOLUME OF CEMENT TO TWO PARTS BY VOLUME OF SAND WITH AN ENOUGH WATER TO PERMIT PLACING AND TAMPING. AN APPROVED CUSTOM PLAN WILL BE USED. AN ADDITIONAL METHOD OF LIFTING MAY BE USED WITH APPROVAL.

NEVADA DEPARTMENT OF TRANSPORTATION

PRECAST CONCRETE  
BOX CULVERT

designer is investigate the availability of the required box size.	Signed Original On File		8-20-18	(502)
	CHIEF BRIDGE ENGINEER	APPROVED	4/85	REVISION 2/05



RHODES HOMES ARIZONA, LLC  
GOLDEN VALLEY RANCH



**Stanley Consultants INC.**

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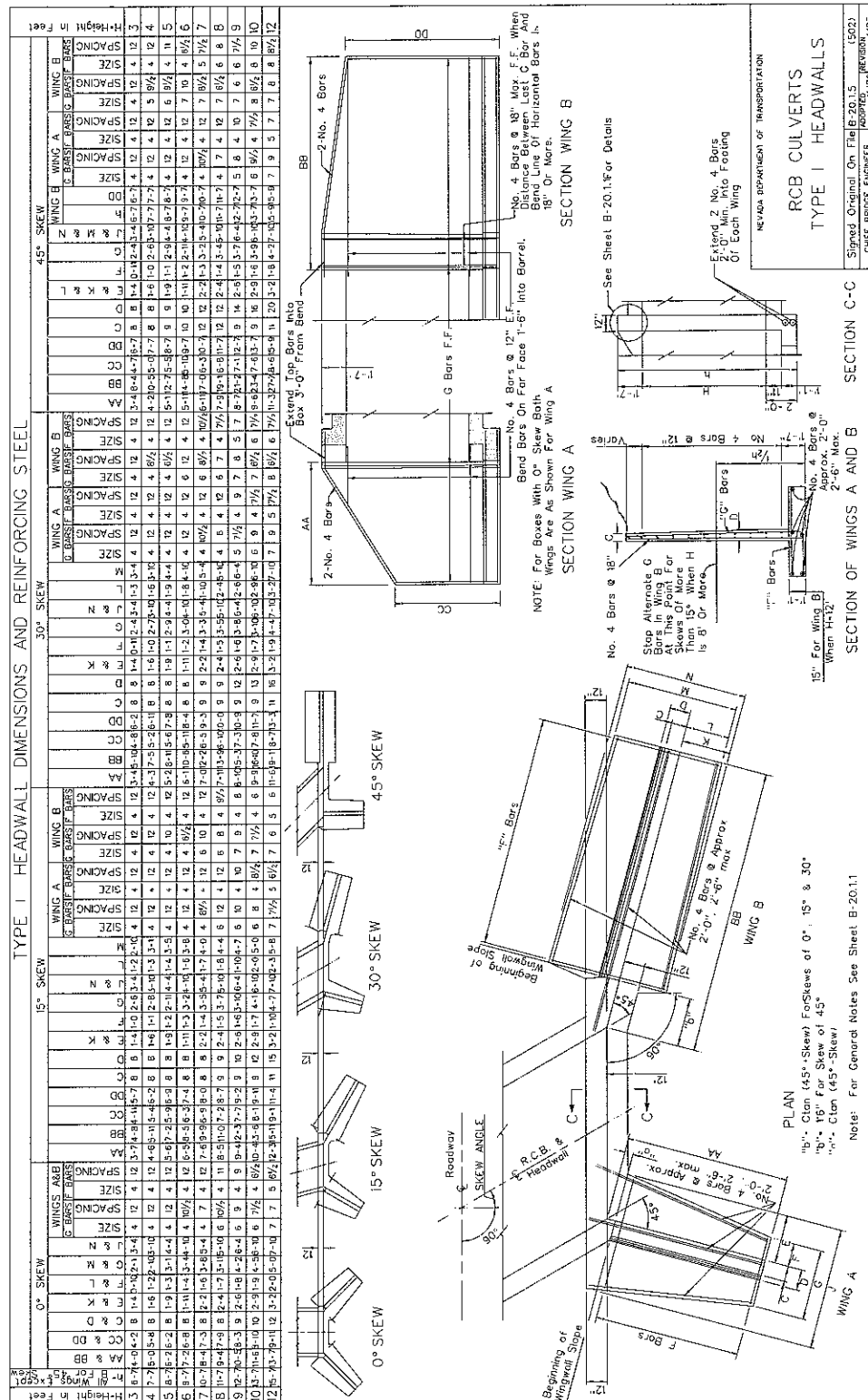
SCALE: NOT TO SCALE

FIGURE VII-K

DATE: 20 DEC 2005  
REV:

ST-RH036288





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**GOLDEN VALLEY RANCH**



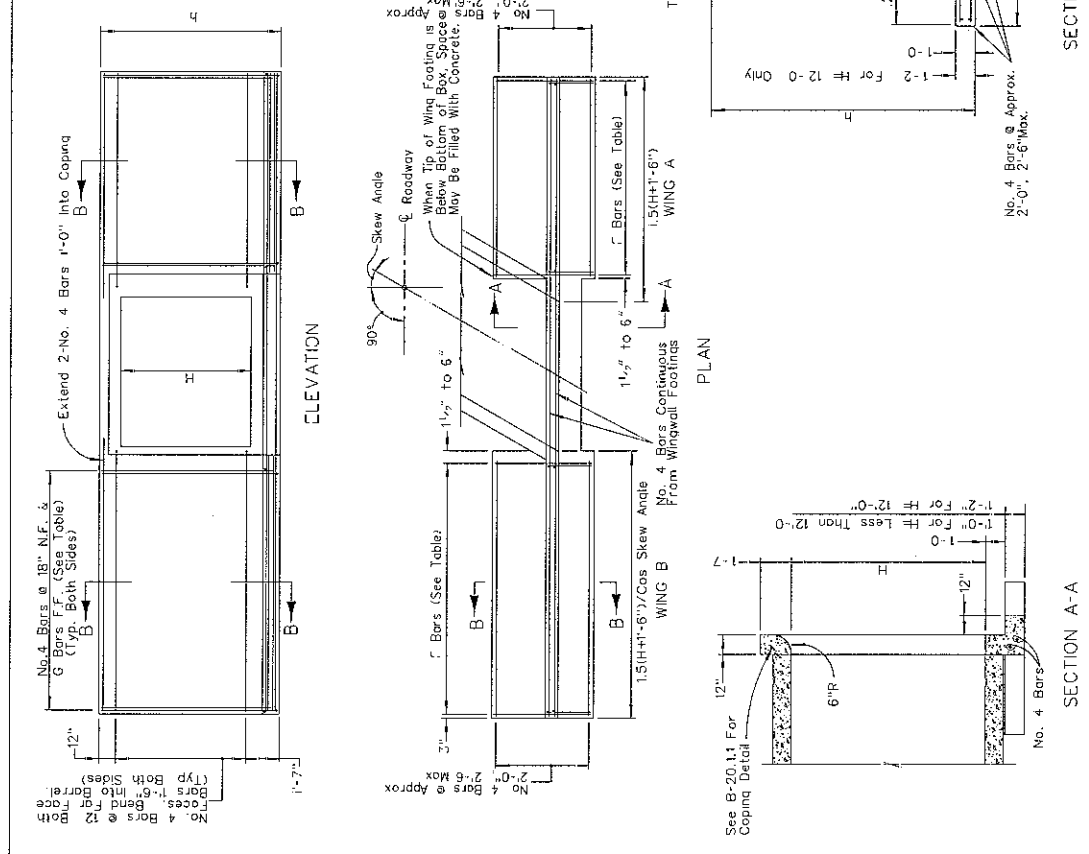
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FIGURE VII-M

DATE: 20 DEC 2005  
REV:

ST-RH036290

[illegible]

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**GOLDEN VALLEY RANCH**



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SCALE: NOT TO SCALE

FIGURE VII-N

DATE: 20 DEC 2005  
REV:



① - QUANTITIES SHOWN ARE FOR TWO HEADWALLS AT THE INLET AND OUTLET

SPAN	HEIGHT	CUBIC YARDS OF CONCRETE AND POUNDS OF REINFORCING FOR TWO TYPE II HEADWALLS												QUANTITIES FOR ADDITIONAL CELLS											
		SINGLE BOX				DOUBLE BOX				TRIPLE BOX				CONCRETE FOR TWO TYPE II HEADWALLS FOR EACH ADDITIONAL CELL (CU. YARDS) (ADD THIS QUANTITY TO THE QUANTITY FOR A DOUBLE BOX)				CONCRETE FOR TWO TYPE II HEADWALLS FOR EACH ADDITIONAL CELL (CU. YARDS) (ADD THIS QUANTITY TO THE QUANTITY FOR A DOUBLE BOX)							
0° SKEW	15° SKEW	30° SKEW	45° SKEW	0° SKEW	15° SKEW	30° SKEW	45° SKEW	0° SKEW	15° SKEW	30° SKEW	45° SKEW	0° SKEW	15° SKEW	30° SKEW	45° SKEW	0° SKEW	15° SKEW	30° SKEW	45° SKEW						
3	9.4	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871						
4	12.5	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871						
5	15.6	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871						
6	18.7	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871						
7	21.8	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871						
8	24.9	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871						
9	28.0	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871						
10	31.1	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871						
11	34.2	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871						
12	37.3	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871	1.871						

ANGLE COSINE	
0°	1.0000
15°	0.9659
30°	0.8660
45°	0.7071

NEVADA DEPARTMENT OF TRANSPORTATION

RCB CULVERTS  
TYPE II HEADWALLS

Signed Original On File B-2014.1 (502.505)  
CHIEF BRIDGE ENGINEER (REGISTERED)

SHEET 2 OF 2

## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH



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**FIGURE VII-O**

DATE: 20 DEC 2005  
 REV:

[illegible]

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GOLDEN VALLEY RANCH



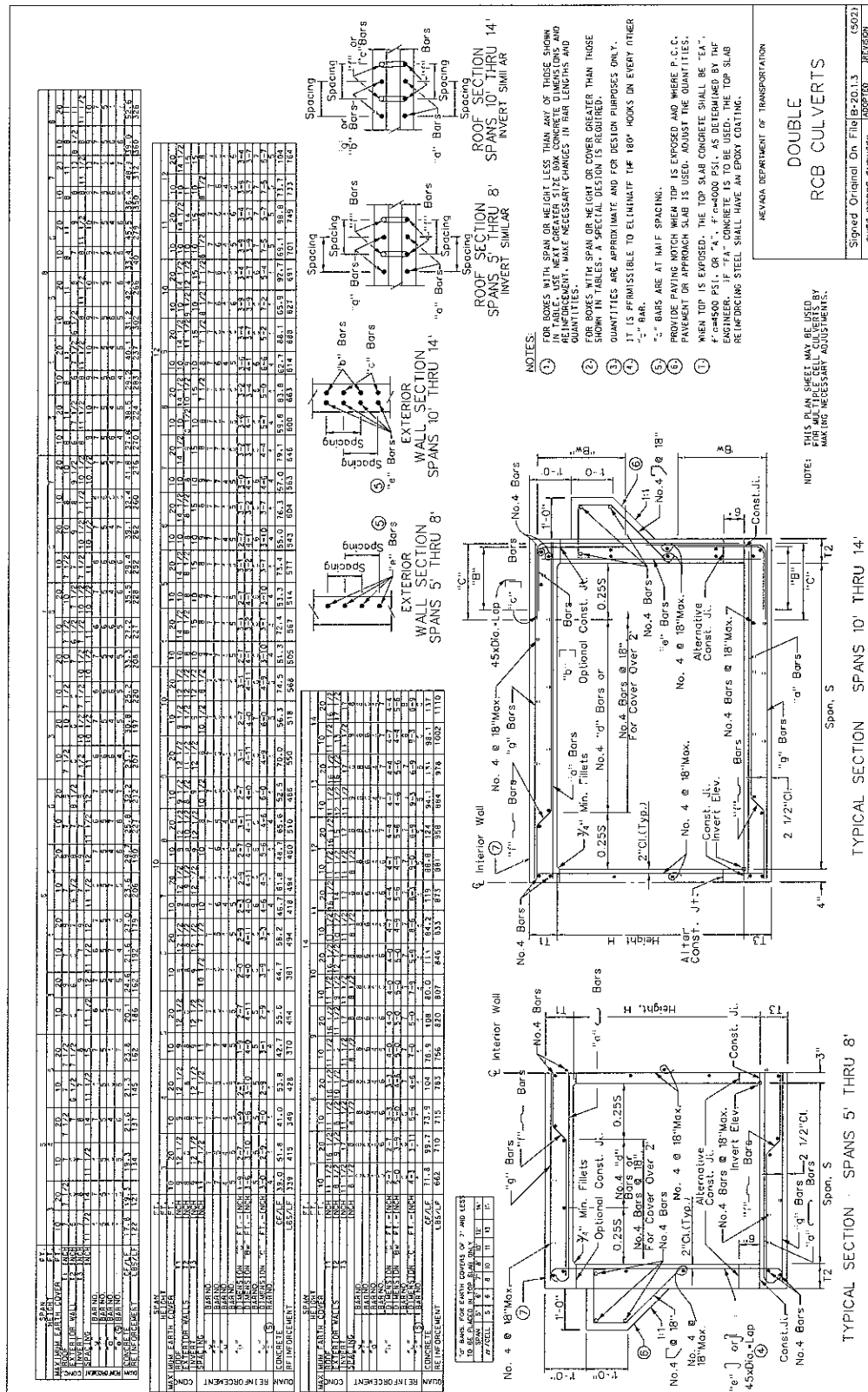
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FIGURE VII-P

DATE: 20 DEC 2005  
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## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH



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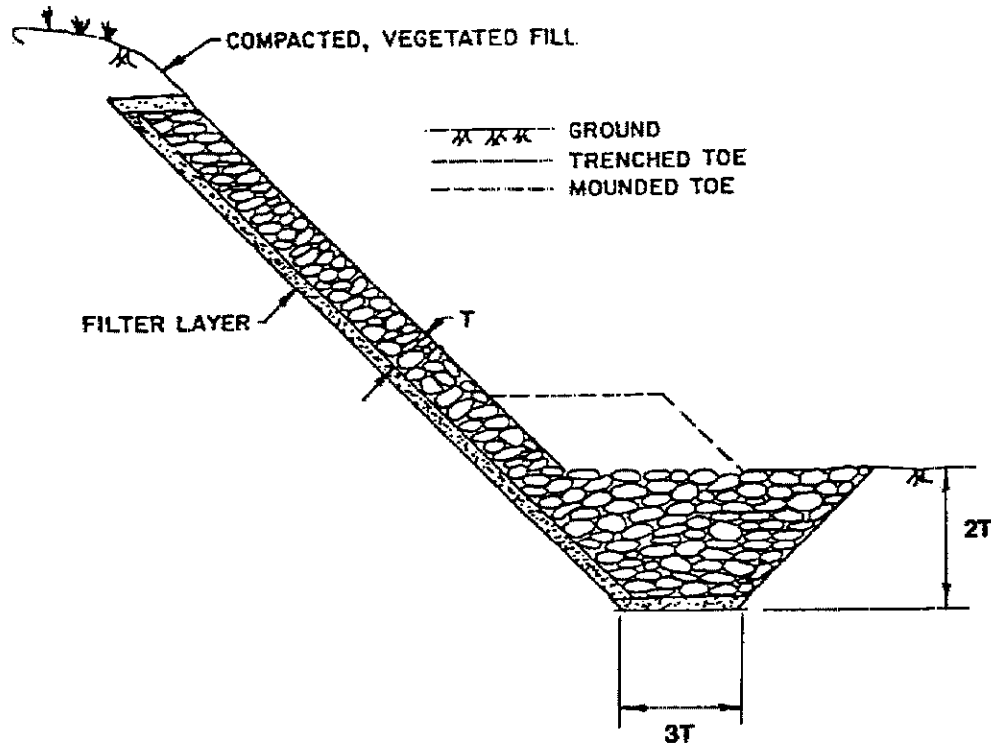
**FIGURE VII-Q**

DATE: 20 DEC 2005  
REV:

ST-RH036295

## HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

## TOE PROTECTION



(After Blodgett, 1986)

Revision	Date

REFERENCE:

FIGURE 705D

RHODES HOMES ARIZONA, LLC  
GOLDEN VALLEY RANCH



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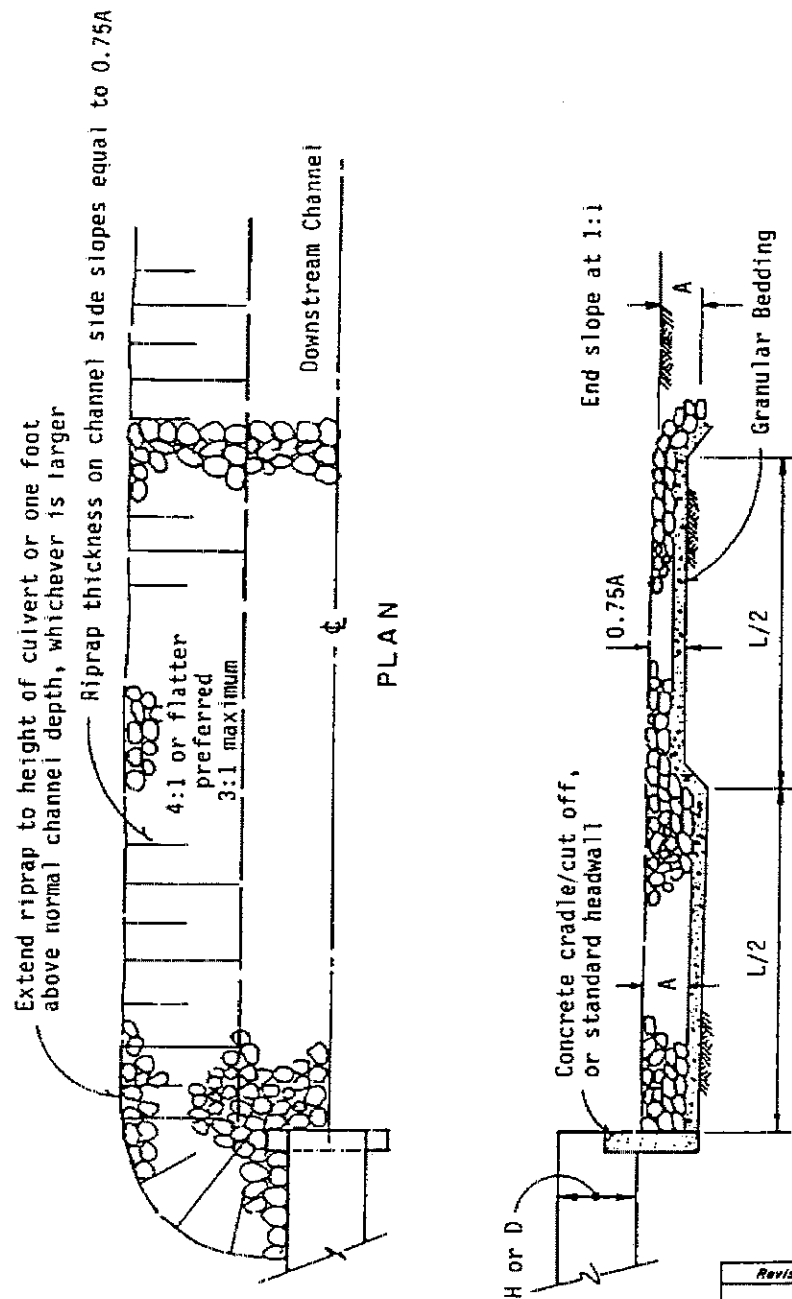
SCALE: NOT TO SCALE

FIGURE VII-S

DATE: 20 DEC 2005  
REV:

## HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

## CONDUIT OUTLET EROSION PROTECTION

WRC  
ENGINEERING

## REFERENCE:

USDCM, DRCOG, March 1969 (with modifications)

FIGURE 711

RHODES HOMES ARIZONA, LLC  
GOLDEN VALLEY RANCH

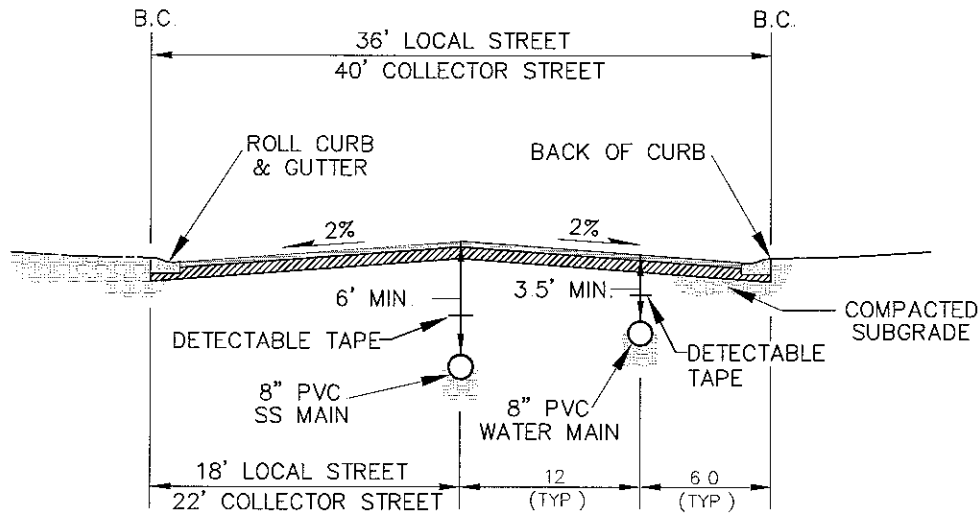
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SCALE: NOT TO SCALE

FIGURE VII-T

DATE: 20 DEC 2005  
REV:



### **TYPICAL WATER AND SS MAIN LINE SECTION**

N.T.S.

NOTE:

INSTALL M.A.G. STANDARD DETECTABLE LOCATOR TAPE OR PLASTIC COATED (BLUE FOR WATER AND GREEN FOR SEWER) #8 WIRE FOR ALL WATER AND SEWER LINES

**RHODES HOMES ARIZONA, LLC**  
**GOLDEN VALLEY RANCH**



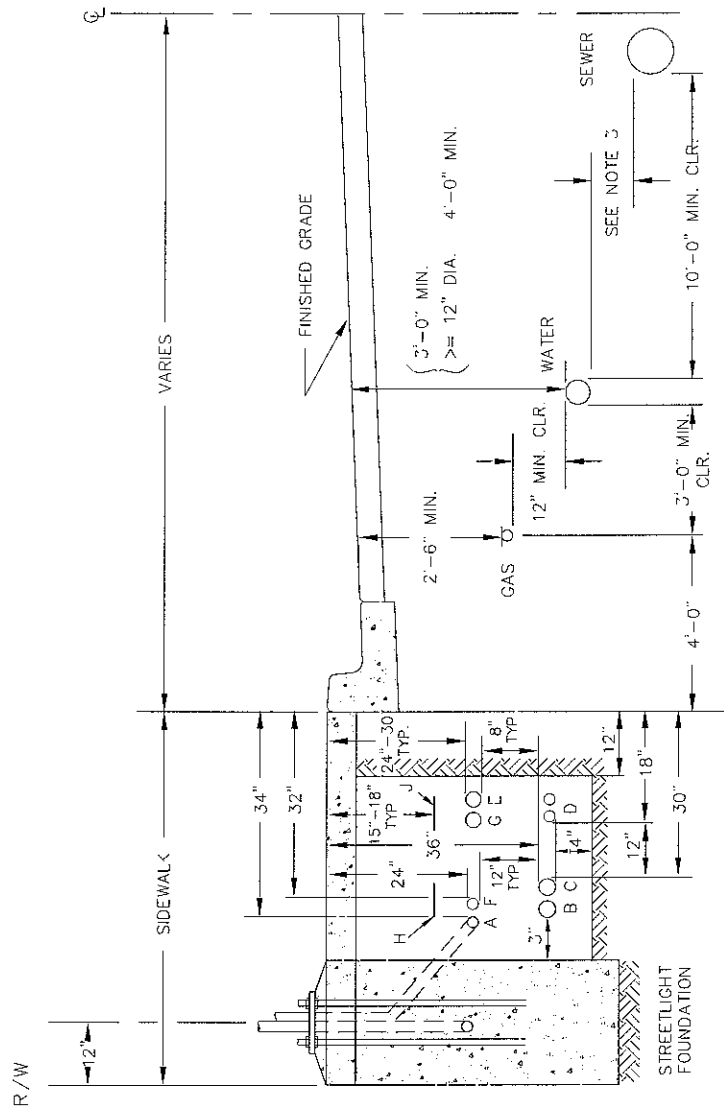
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**FIGURE VIII-A-1**

DATE: 20 DEC 2005  
 REV:



- NOTES:
1. SEWER MAY BE LOCATED ON OTHER SIDE OF CENTERLINE AS TERRAIN DICTATES.
  2. STREETLIGHT FOUNDATIONS SHALL BE LOCATED BEHIND SIDEWALK FOR SIDEWALK WIDTHS LESS THAN 5 FEET PER STANDARD DRAWING NO. 320.
  3. SEPARATION DISTANCE SHALL CONFORM TO UTILITY STANDARDS ADOPTED BY THE GOVERNING AGENCY FOR SEWER AND WATER FACILITIES.
- A. STREETLIGHT CONDUIT  
 B. POWER COMPANY SECONDARY  
 C. POWER COMPANY PRIMARY  
 D. TELEPHONE CONDUIT  
 E. CABLE T.V. CONDUIT  
 F. TRAFFIC SIGNAL CONDUIT  
 G. OTHER COMMUNICATIONS CONDUIT  
 H. POWER MARKING TAPE  
 J. TELEPHONE MARKING TAPE

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA	
		TYPICAL UNDERGROUND UTILITY LOCATIONS IN RESIDENTIAL STREETS WITH 60 FEET OR LESS RIGHT-OF-WAY	
		DATE 3-14-02	DWG. NO. 501
		PAGE	121

## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH

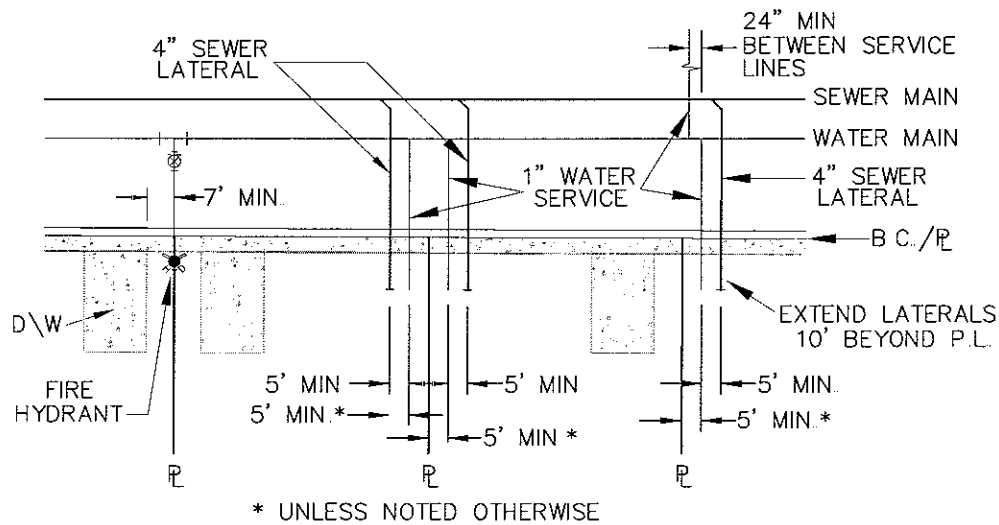


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**FIGURE VIII-A-2**

DATE: 20 DEC 2005  
 REV:



**TYPICAL WATER AND SS LATERALS**  
N T S.

**RHODES HOMES ARIZONA, LLC**  
**GOLDEN VALLEY RANCH**

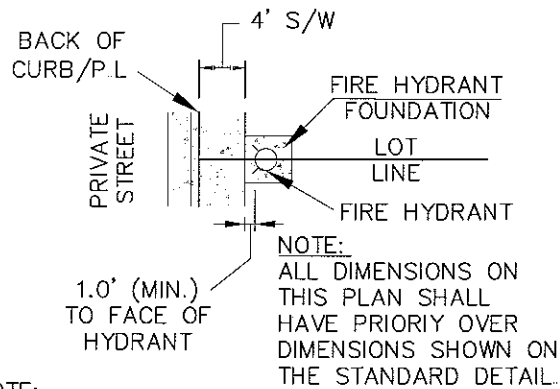


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**FIGURE VIII-A-3**

DATE: 20 DEC 2005  
REV:



**NOTE:**  
IN LOCATIONS WHERE FIRE HYDRANT IS NOT ADJACENT TO A SIDEWALK, FACE OF HYDRANT TO BE 3' FROM BACK OF CURB.

**FIRE HYDRANT LOCATION**  
N.T.S.

**RHODES HOMES ARIZONA, LLC**  
**GOLDEN VALLEY RANCH**



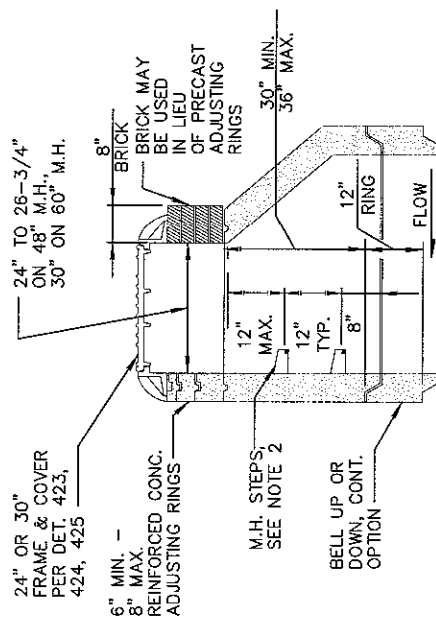
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**FIGURE VIII-A-4**

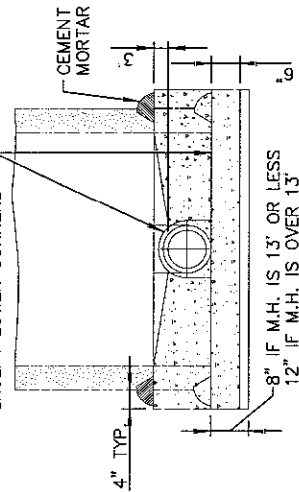
DATE: 20 DEC 2005  
REV:





TYPE 'A' TOP  
(PRE-CAST ECCENTRIC CONICAL TOP M.H.)

\*\* ALTERNATE BASE  
WITH KNOCKOUTS FOR PIPES.  
CLEARANCE AROUND PIPES  
1" MIN. - 3" MAX.  
EXCEPT LOWER CORNERS



### NOTES:

1. PRE-CAST, REINFORCED M.H. SECTIONS SHALL BE MANUFACTURED IN ACCORDANCE WITH A.S.T.M. C-478 EXCEPT AS MODIFIED HEREIN.
2. M.H. STEPS SHALL BE INSTALLED AT SITE OF M.H. SECTION MANUFACTURE. MINIMUM CLEARANCE EACH SIDE OF M.H. LEG SHALL BE 1" STEPS SHALL BE MOUNTED WITH 2 TO 1 SAND/CEMENT DRY PACK MORTAR. (SEE DET. 428 FOR M.H. STEP.) STEPS REQUIRED IN 48" DIAMETER MANHOLE. STEPS NOT REQUIRED IN 60" DIAMETER MANHOLE.
3. USE LOW ALKALI CEMENT ONLY

DETAIL NO.  
420-1



STANDARD DETAIL  
ENGLISH

PRE-CAST CONCRETE SEWER MANHOLE

REVISED  
01-01-2001

DETAIL NO.  
420-1

## RHODES HOMES ARIZONA, LLC GOLDEN VALLEY RANCH



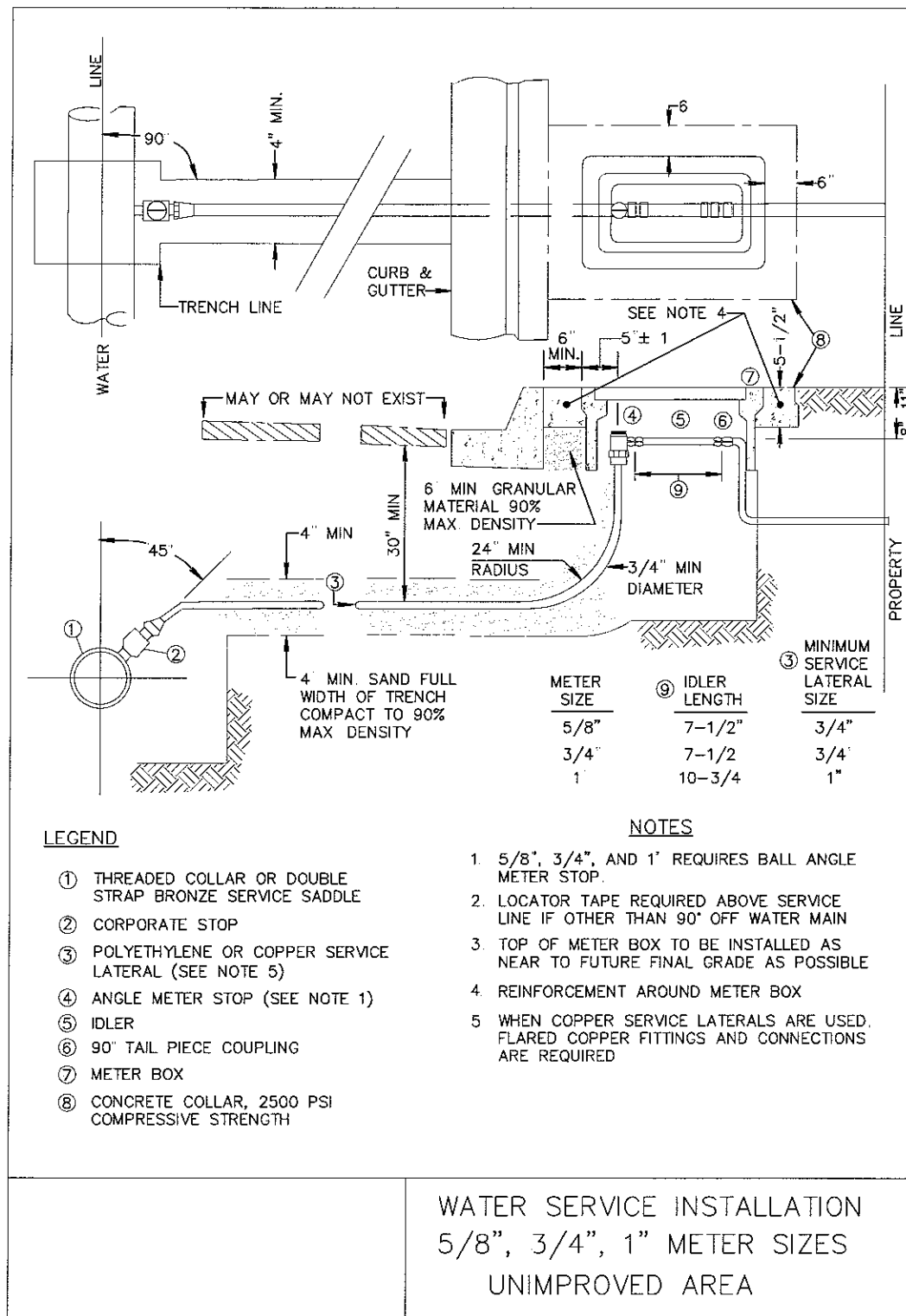
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**FIGURE VIII-B**

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**FIGURE VIII-C**

DATE: 20 DEC 2005  
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